Quality Concerns in Education

Manzoor Ahmad Bhat

Quality is the most cherished goal in any human endeavour and especially in the field of education. But there is lack of agreement about what 'quality' actually is. It is a relative term and hard to define and even more difficult to measure. That is why no two educators or experts come to same conclusion while discussing what makes good quality education or a qualitative institution.

This book, which owes its origin to the extensive research work carried out by the author, discusses in detail the fundamental question about the quality in education. The author has identified some factors to improve quality in education and has operationally defined and measured them objectively.

The book will benefit planners, policy makers and administrators in education with a view to stimulate their interest and attention for quality enhancement, especially during the formative years of an individual. The quality components as discussed and the generalizations made in this book should facilitate all the stakeholders in education in realizing the objective of quality in education.

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Foreword

I have a personal point in presenting a foreword to the work completed by M.A. Bhat. Quality education has been the focus of my attention ever since I got a regular assignment in education. It was, however, difficult to pass on to primary system from the university level. At certain occasions the quality question appeared to the more baseline-related than a routine learning residue at some higher level of education.

The base line concept is essentially connected with initiation process of a child. More clearly speaking, it is a tactful combination of pre and primary education through which a child must go, before he grows into a productive person later in his life. Unfortunately, this period is lost into a meaningless educational endeavour.

In India and particularly in Kashmir, quality considerations in education were major priorities of the missionary system of education. Towards the close of 19th century, J&K saw the emergence of the modern schooling at the hands of Christian missionaries. Most of such education was available to the urban elites and in few areas of some important towns. Post-independence era, however, shows a mass rising phenomenon in educational area. Commissions, committees

and expert groups on education were formulated. Modern education, free of all costs up to University level became a domestic slogan. This is exactly where the quality question emerged. With every increase in number, quality of achievements had to fall. The schools in private sector became more choosy and selective. The best of children and with some careful supervisory system, left the public sector children far behind. Although the care-takers of the public system of education very well know where the shoe pinches but they lack the will (and perhaps resources also) to mend the system.

The present book is a marvellous effort to identify and demonstrate the values of such factors, which are responsible for quality control in elementary education. It is in some respects, a story of best inputs processed for most expected outcomes. I have gone through quite sizeable accounts on quality strategies in primary education, but the work presented by M.A. Bhat is more important because it has brought together both theory and practice in a meaningful manner. One such study was reported by Sue Kathryn in 1996 when the quality question was tied with the environmental questions. The environment for that study consisted of school system, neighbourhood and overall family impact. Another study in the same vein but with a different form was presented by Maitrya of Delhi University. It was in the field of gifted under-achievement. In both these studies, one could very carefully see how some factors influence the achievement of the children in their formative years and how they are ignored by the so-called educational institution.

The important factors such as finding, teaching learning material, teaching strategies, examination and evaluation system, extra-curricular activities, talent appraisal system to identify and promote talent and above all a process of counselling and guidance services to develop creative and imaginative thought pattern among children generally loose sight in the public system of education, whereas majority of these factors are available in the private sector. Parents do not mind

investing in their children because they are fully aware of the dividends they get.

I recommend this book to be read by all, particularly educational administrators, educationists, media persons, the class room teachers, principals, headmasters, trainers and the students. This book is significant from another angle also for its immediate uses. It uses Anantnag as a model, leaving much space for further works in other districts. It is here that the researchers in education shall find some interest in this work.

I have also liked the arrangement in which the book has been presented. For each variable under discussion, not only do you have the necessary data, but a convincing argument also. This is where a strong theoretical base directs or pilots the basic research assumptions. I hope that this book shall receive a great response and appreciation.

A.G. Madhosh
former Head and Dean
Faculty of Education
University of Kashmir

Preface

The present book is based on a study conducted in the district of Anantnag which was primarily submitted as a thesis to the Faculty of Education, Jamia Millia Islamia, New Delhi for award of Ph.D. degree. The author was moved by the perception of quality concerns in the education. Though in India and particularly in Kashmir, elementary educational facilities in the form of schooling and teacher recruitment have reached the remotest areas, yet the achievement of students is in no way admirable if we take into consideration the investments made on education especially in the public sector (government schools). Besides, the overall quality of school education was the main concern of the author. With this objective in view, a study was conducted in the district of Anantnag to have a fact-finding picture of educational status at the elementary stage and to find out the factors that determine the quality of education. The logic of conducting the study at the elementary stage is that elementary education is the potent foundation for further education. The quality of further education and life depends upon the quality of elementary education.

The major variables that have been dealt with exhaustively in the study are: school quality, institutional expenditure,

socio-economic status, achievements of students and teacher-pupil ratio. The school quality has been operationally defined for the present study, which includes four major components like academic and non-academic manpower facilities, infrastructure, curriculum and co-curriculum programme of a school. The expenditure has been limited to institutional expenditure only. In order to find out the achievement level of students, the investigator had developed his achievement tests in four major subjects like English, Maths, Science and Social Science. Here, we have not relied upon the student achievements in their annual examination which are supposed to be biased.

The book presents a comparative profile of public (government) and private schools with respect to the above variables and clearly makes one understand the qualitative status and achievement level of students in private and public (government) schools. It also comprehensively deals with the causes that led towards the poor achievements of the students.

I hope this book will prove an eye-opener to the planners in education, teachers, educational administrators and others interested with education-related assignments, because the present work reveals the reality on the ground. Besides, a new area of quality education got exposed for those who intend to and conduct research in this important area of educational research.

Manzoor Ahmad Bhat

Acknowledgement

First and foremost, I am thankful to the almighty, Allah for his blessings that always help me to achieve my noble objectives including the completion of the present work. I feel indebted to many people who extended their cooperation, technical help and sincere suggestions that enabled me to complete this study. The prominent among those are A.G. Madhosh (former Head and Dean, Faculty of Education, University of Kashmir), Gulam Dastgir (former Head and Dean, Faculty of Education, Jamia Millia Islamia, New Delhi) and D.S. Nagi (former Director of Research Council for Social Development, New Delhi). I am equally thankful to the library staff of National Council for Education Research and Training, New Delhi, National Institute of Educational Planning and Administration, New Delhi for all the necessary help and assistance.

Besides, I express my gratitude towards the principals, headmasters, teachers, and students who cooperated with me during the process of data collection. My special thanks are due to my parents and wife who proved a great source of inspiration and support in completing this study.

Last but not least, I express my indebtedness to ICSSR authorities, New Delhi who processed my case for award of

assistance needed for publication of my research work, otherwise it would have been difficult for me to publish this work.

Manzoor Ahmad Bhat
Anantnag

1

Quality in Education: An Introduction

Education being one of the most important factors responsible to shape the personality of an individual has manifold functions. It is the potent source of material and human development. Especially, "basic education is an indispensable passport to life" (Delor, 1996), upon which the quality of further education and life depends. All committees and commissions on education at state, national and international level have stressed upon the role of education particularly of primary education in the well-being of individual and society at large. The right to education has been well recognised by the UN General Assembly under Article 26 of Universal Declaration of Human Rights as:

I. "Everyone has the right to education. Education shall be free, at least in elementary and fundamental stages ...
II. Education shall be directed to the full development of human personality and to the strengthening of respect of human rights and fundamental freedoms ...
III. Parents have a right to choose the kind of education that shall be given to their children."

In the year 1950, when the Constitution of India was adopted, it provided for a republican form of democracy, in which education was recognised as a basic individual right.

Article 45 of the Constitution as directive principle of state policy states, "The state shall endeavour to provide within a period of 10 years from the commencement of this constitution for free and compulsory education for all children until they complete the age of fourteen years".

The Education Commission, 1964-66, the National Policy on Education, 1968 and the National Policy on Education, 1986, reiterated the state responsibility to provide free and compulsory education to all children up to the age of 14 years. In addition, the Government of India enacted the 73rd and 74th Constitutional Amendments to empower local bodies and municipalities to manage and monitor primary education. The Supreme Court of India in its judgement of 1993 declared primary education as a fundamental right. The Government of India has drafted a bill on education, the 83rd Constitutional Amendment; the bill is already in Rajya Sabha. It aims at making elementary education a fundamental right.

Elementary education has now become a global concern. The world conference on 'Education for All' held in March, 1990 in Jomitien, Thailand adopted a declaration calling upon all member states and international agencies to take effective steps for achieving Elementary Education for All (EFA) by the year 2000. India was also one of the participants and signatories to the declaration. "The ultimate goal affirmed by the world declaration on education for all is to meet the basic needs of all children youth and adults."

The Government of India recently has launched an integrated educational programme 'The Sarva Shiksha Abhiyan' for universalising elementary education and a National Mission constituted with the Prime Minister as its chairman. The programme aims to provide eight years of quality elementary education for all children up to the age of 14 years in a mission mode with a thrust on community ownership, disadvantaged groups and quality education for girls.

The present study has been conducted in the district Anantnag of Jammu and Kashmir state (J&K). So, a brief background of constitutional and other legal measures that pertains to elementary education are presented here. The J&K is the only state within the union of India that has its own separate constitution and enjoys a special status under Article 370 of the Indian Constitution. The Constitution of Jammu and Kashmir was adopted in 1956 and it provided for free and compulsory primary education. Article 20 of the Constitution states that "within the period of 10 years from the commencement of this Constitution (20-10-1956) compulsory education for all children until they complete the 14 years".

Prior to this constitutional provision, Maharaja Hari Singh was the ruler of the state. He had appointed an Education Reorganisation Committee under chairmanship of K.G. Saiydain in 1938. The committee had made important recommendations regarding introduction of 'basic education' or 'wardha' scheme and drawn up a 25-year plan for universalising elementary education in the whole state. In 1950, one more Educational Reorganisation Committee under the chairmanship of A.A. Kazmi was appointed. This committee too recommended universalising of primary education. The Bhagwan Sahay Committee (1973) appointed by the state government, also made some important recommendations in the light of Indian Education Commission Report (1964-66) regarding education especially on elementary education. But the most important development in the elementary education is the enactment of the Jammu and Kashmir School Education Act, 1984. This Act reiterated the constitutional commitment and set the new target of achieving universalisation of elementary education by the year 1994. The Act states, "The government shall provide free and compulsory education for children up to the level of class VIII throughout the state within a period of 10 years from commencement of this act." In the latest developments in the state, the Government of J&K adopted the J&K State Plan of Action for Children (SPAC).

The plan envisages commitment to universalise quality type elementary education. The plan recognises that children are a source that needs to be nurtured and developed for building a strong nation. The SPAC set the target of universalisation of elementary education by the year 2002 A.D. In this behalf, it provides for adoption of certain strategies and activities to be carried out by the state for achieving the targeted goal within the stipulated time-frame.

There is no doubt that India has failed to universalise elementary education even at the turn of 20th century, despite the constitutional directions and several other statements of intention as mentioned above. The same situation happens to be with regard to J&K state which is still one of the educationally backward state. India, at present, is denigrated as the world's largest reservoir of illiterates, housing 468 million which constitutes 33 per cent of world's illiterate population (*World Education Report 2000*). But, at the same time, she has more than 500 million literates, only second largest in the world and largest than the total population of entire European Union (Mukhopadhyay and Prahar, 1999). Thus, there are two sides of the truth, i.e., India is the largest reservoir of both literates and illiterates.

Academic Achievement at Elementary Stage

Another main concern in India is the low levels of academic achievement at primary stage of education. Generally speaking, achievement implies to the net results of an individual's effort over a period of time. In case of academic achievement, it is a combination of knowledge and skills which a child acquires on going through a process of formal institution. Academic achievement is also related to objectives of syllabus content to be covered during a full term. The aim of teaching civics, for example, is to, "make better citizens" (Deale, 1975). In language also it is possible to measure the achievement at the end of the session. While examining academic achievement of pupils in various subjects, examinations also help to assess and interpret

and to present a balanced viewpoint after necessary discussion. Academic achievement is also assessed through oral tests and assignments given for practicals. Examination is a combination of several discriminating attainment tests, the purpose is to discriminate across the whole of the ability range (Deale, 1975).

Educational achievement of children in any society is governed by such factors as social, philosophy, educational objectives, tools and techniques used for imparting knowledge, learning experiences and modalities of assessment. It is, therefore, being shared time and again that education should be related to life, needs and aspirations of people.

Factors in Academic Achievement

Academic achievement is closely related to opportunities of motivation in teaching-learning process. The motivating factors could be desire for recognition, need for security or even a person's adventurous spirit to have new experience (Schwartz, et al., 1962). The sense of competition and pressure from job market are also important factors related to academic achievement. The school management, facilities available in school and home and teacher quality also influence academic achievement. Since, there is variation in all such factors in every society, there is variation in achievement levels of students too.

However, the source of variation in learner achievement is different in developed and developing countries. Studies have repeatedly shown that home background is a more important predicator to explain variation in learner achievement in developed countries and school factors are more significant in explaining learner achievement in developing countries (Lockheed and Verspoor, 1991; Shukhla, 1974; Govinda and Varghese, 1993; Bashir, 1994; Heyneman and Loxely, 1983).

Most of the studies (Dave and Murthy, 1994; Govinda and Varghese, 1993; Jangira, 1994) have also shown that levels of learner achievement are rather low at primary stage in India. This being the reason, the policy makers have focussed their

attention on learning levels attained by children who attend schools. In this regard, a National Committee of Experts set up by Government of India in early nineties evolved a framework to be attained by every student undergoing primary education (India Year 2000 – Education for All).

Funding in Elementary Education

Education has to play an important role in a developing country like India which is on her track to become an economic world power, give leadership in science and technology and to achieve the status of a developed nation where illiteracy, ignorance and poverty is no more. Indian youth have already proved their talent in information technology sector. The largest manpower in the IT sector throughout the world belongs to India. In order to achieve such a status in all walks of life, she has to improve the quality of education by making heavy investment in it. The first thing that emerged quite clearly from research in Britain and elsewhere is that education is a profitable form of investment both for individual and for the country as a whole (Maureen, 1980). The lively example in this behalf is that of Japan. Japan has made an initial heavy investment in developing an educational system and this has certainly contributed to its later economic growth (Harbinson and Myers, 1964).

Endorsing the need of heavy investment in education, the Indian Education Commission (1964-66) has recommended more than a quarter century ago that minimum 6 per cent of GDP be spend on education. The requirement was further sensitised by the National Policy on Education (NPE) 1986. The NPE 1986 felt that, "The deleterious consequences of non-investment or inadequate investment in education are indeed very serious." Though the Government of India had decided to spend 6 per cent of GDP on education by the end of Ninth Five-Year Plan, but the target of such spending could not be materialised.

Since, the country's national development and survival depend on the investment, "it needs no special evidence to note that sustainable change in quality can be achieved only through long-term investment" (India Year 2000 – Education for All, 2000).

Quality in Education

The emphasis on the quality of education particularly during the formative years of primary education has been substantiated by the volumes of research all over the world and the fact that the skills, values, beliefs developed in the primary grades are most significant critical success factors – both in education and later in life. This being the reason, quality of education is receiving a priority by the hands of parents and other stake-holders. In order to meet the increased demand of quality education, the private institutions came into existence at large scale. The expansion of private educational institutions is the result of increased demand and aspirations of parents for quality education. The situation in India is not different. "Private educational institutions have come up in India in response to growing educational requirements of the pupil, expressed in terms of the desire for good quality education ... The growing population pressure and universalisation of primary education also have contributed to the growth of private educational institutions" (Odeyard, 1990). Besides, some private institutions have build up good traditions and high standards despite their meagre financial contributions (Natarajan, 1990).

Here, it will not be out of place to understand the meaning of quality in educational parlance. The quality 'gurus' have defined it in multifarious ways such as, "quality is somewhat problematic: like beauty, it lies in the eyes – or rather the mind of the beholder" (Clift et al., 1987). Quality has a number of different meanings. "Quality is what the customers say it is." The American Society for Quality Control (Johnson and

Winchall, 1990) states that "quality is totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs". Quality has been extensively defined by Downey et al. (1994) as, "meeting, exceeding and delighting customer's needs and expectations with the recognition that these needs and desires will change over time."

Who is the customer in education, surely it is the student; our primary customer is the student who is both internal customer participating in the learning process and who becomes an external customer when he leaves the school. Since, "education is a service organisation and the service we provide is the opportunity to learn. In this sense, student is not our product, our major product is the learning and we are responsible for spending every movement to add value to each student's capacity to learn" (Downey, et al., 1994). There are different views among educators about what constitutes a 'good quality' elementary education but the public in general and parents in particular often seem to have less doubts about what is implied by the term. For them, "improving the quality of education invariably means raising the levels of academic performance usually measured in the test scores in the various subjects which form part of their school curriculum" (Kazim et al., 1991).

Keeping in view the fast changing world and its demands, the NPE 1986 had, "laid stress on the need for radical reconstruction of education system, to improve its quality at all stages and to give much greater attention to science and technology". Besides, it is significant to note that NPE 1986 defines Universal Elementary Education in a broader framework. "It made a significant shift in emphasis from enrollment to participation and retention" (Rajaih, 1989). It also stressed that education of a satisfactory quality be imparted to all children.

Role of Private Sector in Primary Education

India has succeeded to a great extent in universalisation of elementary education. "More than 150 million children are currently enrolled covering 90 per cent of the children in the age group of 6-14 years" (Maheshwari, 1999). Recent surveys show that more than 95 per cent population has access to primary education within a distance of one km. These achievements have become possible by government efforts as well, with the active support of international agencies. The global agencies that help in universalisation and provision of quality type elementary education include UN bodies like World Bank, Asian Development Bank (ADB). Besides, bilateral grants have been obtained from a number of donors such as European Commission, Department for International Development (DFID) and Swedish International Development Authority (SIDA). "In fact large programmes such as District Primary Education Programme (DPEP) are being supported and funded jointly by several of these agencies" (India Year 2000 – Education for All).

In addition to international support and government efforts, private agencies, religious bodies, voluntary organisations have established many primary and elementary schools so that the objective of universal enrolment, universal retention and quality type primary education is realised. The 9th Five-Year Plan mentions in this regard: "The government proposal to make right of elementary education as a fundamental right is likely to generate great concern and efforts for elementary education. The creation of an enforcement machinery to give effect to the provisions of compulsory education will be an important component."

In addition to the efforts made by the central and state governments in establishing a number of schools all over the country, the different types of schools emerged in private sector too, having more or less same educational objectives. They normally differ in methodology of teaching, infrastructural and manpower facilities, medium of instruction, discipline, additional curricular and co-curricular activities.

"Despite the governments ability to plan, to guide and to run primary schools, the expansion of private schools has taken place" (Rajaih, 1989).

As regards the privatisation of education, the Constitution of India under Articles 19, 28 (1), 28 (2) and 30 permit the starting and maintaining of private schools. Historically, almost all schooling used to be private. Early education in India was in a 'gurukul' or 'ashram' where guru used to impart knowledge. This shows that education was absolutely a private affair without state support. "The view that, governments have responsibility for the education of their citizens has been widely held since the nineteenth century in Europe and since early or mid-twentieth century in most of other parts of the world" (Bray, 1998).

Present Challenges

India, at present, is on the fast track of globalisation and privatisation. The decade of nineties has experienced the liberalisation of the most areas of economic activity like energy generation, consumer goods, entertainment, aviation, infrastructure, highways, banking and insurance, communication and so many areas of activity have been opened for global market. A shift from public sector to private sector is gaining momentum day by day. More and more public sector companies and undertakings are given to private sector. Day in and day out, the disinvestment process is at supersonic speed. In such a global economic trend-set, education cannot remain unaffected, when the quality of education in government sector is already considered not up to the mark. So, in the field of education also, private sector seems to flourish due to its quality as perceived by most of the parents. Thus, "the present widespread ideological shift towards privatisation in education seems as a return towards earlier centre of gravity rather than a completely new phenomenon" (Bray, 1998).

We, at present, are living in a global village where everyone has equal access to workplaces or the workplaces all

over the globe are open to everybody, who is skilful, competent and knowledgeable, living on this planet. Only those who are technically trained, mentally broadened in their vision and have ability to keep themselves current with the latest information get absorbed. The rest have no room in the lucrative workplaces or job markets. Keeping such technically oriented manpower requirements of 21st century in view 'Smart Schools' emerged in many countries like Australia, Japan, Malaysia, Singapore and the USA. In these schools, latest technological infrastructural facilities and technical expertise are available to students. For example, class rooms are equipped with latest computers with Internet and e-mail facilities, so that students keep themselves current with latest knowledge in any field of life. Naturally, these students will have more self-confidence, and easy access to information in less time. "Another hallmark of such schools is that its students in their interaction are supportive to each other instead of being competitive" (Maheshwari, 1999).

As mentioned above, 'education' is a service organisation and the service that a particular school provides depends upon the inbuilt system of the school, which means the availability of various facilities and the way of its functioning. But our schools both in private and public sector are very poor in infrastructure, manpower facilities and in the curricular and co-curricular programmes with some exceptions in favour of private schools. In the present competitive world, we, on the whole in India and particularly in the J&K state, are lagging behind in educational development. The state of J&K, in particular, has failed to universalise elementary education and eradicate illiteracy. The state could not succeed in providing infrastructural and manpower facilities and other requisites for retaining the children in schools. Besides, the schools that are functioning seem to be inadequate as per the expectations of parents as they are not meeting the quality requirements of parents. This situation resulted in the mushroom growth of private schools in the recent years. The private affair of

education is not a new idea for the people in the state. Private education was an orderly affair in the ancient and pre-independence periods of Kashmir.

Need for the Present Study

Primary education is of paramount significance for individual as well as for national development. As such, it is an area of major concern in India. Though primary education, at present, is a priority sector of education, this sector has remained neglected in educational research. Out of 1,800 research abstracts, only 54 were found to be carried on primary education (Dave and Murthy, 1994). The areas that were researched upon include: history, universalisation, drop-outs, pupil achievement, evaluation, teacher training, etc. But the school quality in relation to other variables like socio-economic status (SES), expenditure and achievement have not been extensively researched upon in India especially taking into consideration the involvement of private sector in primary education. A good number of empirical studies in developed countries were conducted on school quality (Kathryn, 1996; Magdalena, et al., 1997; Heyneman and Loxely, 1983; David, 1992; Behrman, et al., 1997) In India, a few studies on quality at primary stage were also conducted (Varghese, 1994; Govinda and Varghese, 1993; Bashir, 1994; Kingdon, 1996; Ramaswamy, 1988; Singh and Saxena, 1995; Singh, 1996).

In India, except the studies conducted by Sajitha Bashir and C.G. Kingdon, no other study makes a comparative analysis of achievements directly between private and public school students. At present, there is a general trend of privatisation, which has given rise to establishment of private schools both in urban as well as in rural areas. Taking into consideration the general paucity of research activity in quality education on the whole in India and particularly in J&K state, where private schools are growing on an accelerated speed both in rural and urban areas. In urban areas like Srinagar and

Jammu, some school have been established with high state of the art hardware by big business houses and missionaries. But, in the rest of districts, the private managed schools are not better than government managed schools in infrastructure and facilities. Still the parents perceive better quality in those schools. Thus, the investigator was inspired to conduct a study in the district Anantnag of J&K state to see the efficacy of these schools in relation to public schools managed by government in the rural district of Anantnag.

In the J&K state, a number of studies have been conducted on variables that affect academic achievement like, intelligence, creativity, SES, teacher-pupil ratio, evaluation techniques, giftedness, use of educational technology, etc. But, the question of quality has not been researched upon, neither alone nor with other variables like funding, SES, etc. Only one comparative study between private and public schools was conducted by Dhar (1986) in the Srinagar city. This study compared the academic achievements of students belonging to private and public schools on the basis of Secondary School Examination conducted by Jammu and Kashmir State Board of School Education (1985). One more study was conducted by Reshi (2000) with the aim to know the administrative structure and functioning of private schools in the Yaripora zone of district Anantnag. This study too was not an extensive study.

The studies so far conducted on school quality, expenditure and SES as correlates of academic achievement, either in India or outside, are mostly based on survey reports. Besides, "in the contemporary educational research, there exists a lack of research activity regarding involvement of private sector in education especially at primary stage" (De et al., 2000). In this backdrop, the investigator keeping such a background of educational research in view, felt that there are solid reasons to conduct a study that will attempt to give a clear picture about the comparative status of private and public schools in district Anantnag of J&K state.

2

The Study Area

The Jammu and Kashmir State

The state of Jammu and Kashmir (J&K) is situated eastward of the river Indus and westward of the river Raavi, lies between 32° 17′ to 36° 58′ North Latitude and 73° 26′ to 80°3′ East Longitude (Lawrence, 1985). The state actually extends over an area of 2,22,236 sq kms. But, according to *Census of India 2001 – Provisional Population Totals of J&K*, it is estimated that the area along the Actual Line of Control is 1,38,134 sq kms which forms the part of Indian territory. Of the actual area in India's command, Ladakh alone covers 70 per cent, Jammu 19 per cent and the Kashmir region accounts for remaining 11 per cent of area (Hussain, 1985).

The state commands a strategic position in Asia due to its central position and is bounded by Tibet in the east, Pakistan in the east, China in the north and Punjab and Himachal Pradesh in the south. The state constitutes three distinct geographical regions, namely, Jammu, Kashmir and Ladakh, which differ widely from each other in terms of their physical framework, socio-economic condition, religio-cultural and even language of the people. The state is divided into two administrative

divisions, viz., Jammu and Kashmir; Ladakh forms a part of Kashmir division.

The major part of the state is mountainous with a number of peaks of high altitude upto 5,000 to 6,000 metres and also deep valleys. The main economic activity of people is agriculture. The official language of the state is Urdu but Kashmir Dogri, Ladakhi, Pahari, Balti, Dardi are also spoken by people besides Hindi and English. The population of the state is 1,00,69,917 persons out of which 53,00,574 are males and 47,69,343 are females. The literacy rate at present is 54.46 per cent. The literacy among male population is 65.75 per cent whereas in female it is 41.82 per cent. The density of population per sq km is 99 persons (*Census of India – 2001, Provisional Population Totals*).

The state of J&K possesses some unique features; e.g., it has its own Constitution and flag and enjoys special status within the Union of India under Article 370 of the Constitution. It is the only state in India that operates from two state capitals – Srinagar (during summer) and Jammu (during winter).

Kashmir Valley

Kashmir Valley is the most extensive and picturesque valley of the world which is surrounded by mighty hills and mountain ranges. It is a spindle-shaped and flat-bottomed valley about 128 kms long and 40 kms wide and ranges in average 6,000 feet above the sea level. The mountains which surround the valley are famous for their high attitudes. On the north is the 'Nanga Parbat' at an attitude of 26,182 feet, in the East stands Harmukh (16,903 feet), in south lies 'Mahadeo' and 'Gwash Brari' (17,800 feet) and Amarnath peak at an attitude of 17,321 feet. On the south-west is the 'Panjal' range with peak of 15,000 feet high. These mountains are infinitely varied in form and colour. It is very difficult to express the beauty and grandeur of mountains of Kashmir (Hussain, 1985).

Nature is bountiful to the valley, its enchanting beauty, waterfalls and cascades, springs and brooklets, lakes and rivers,

MAP OF JAMMU AND KASHMIR

1.	Area	= 222236 Sq Kms (As on Oct 1947)
2	Area Occupied by the Pakistan	= 83290 Sq Kms
3.	Area Occupied by China	= 37555 Sq Kms (1962)
4	Present Area in Indian held Kashmir	= 101357 Sq Kms
5	Administrative Divisions	= 02
6.	No of Districts	= 14
7.	Population	= 10069917
	Density of Population Per Sq. Kms	= 99
8.	Literacy Rate	= 54 46%
	Male Literacy	= 65 75%
	Female Literacy	= 41 82%

Source : India 2001-Provisional Population Totals of J&K

green pastures and cool air, fruits like apple, cherry, mulberry, peach, strawberry, and pear, and above all, the flora and fauna is unique in the world. Besides, the bounties of nature, the people of Kashmir possess a fair complexion, are simple natured and quick-witted though misunderstood by many outsiders. Kashmiri's are famous for their hospitality and sincerity. Kashmir is also famous for the longest fresh water-lake, Wuller (20x80 kms) and Dal lake of Srinagar. Kashmir is also known for its handicrafts all over the world especially in wood carving,

carpet weaving, crewel, shawl and chain stitch embroidery. The 'Shatoos' of Kashmir is a craze for those who possess this kind of shawl.

The Kashmir Valley is divided into six administration districts, namely, Anantnag, Baramulla, Budgam, Kupwara, Pulwama and Srinagar.

Education in Jammu and Kashmir

Kashmir has remained a seat of learning in the ancient times. It has produced scholars who have contributed a lot in the fields of literature, medicine, poetry, astrology, politics, mathematics and philosophy (Rasool and Chopra, 1986). There is no aspect of life and literature where Kashmiri's, have not contributed. There had been ups and downs in the educational development of the state. The educational development of the state can be divided into four phases:

(1) Education in ancient period.
(2) Education in pre-independence period.
(3) Education in post-independence period.
(4) Education at present.

Kalhana in his Rajtarangni, has narrated the importance that people of Kashmir attached to learning. Great centres of Sanskrit learning and literature existed in Kashmir where Sharda and Vijeshware (the present Bijbehara) were important over many centuries. Kashmir Shaivism known as 'Srika' is a distinct branch of Shaivism and has made a rich contribution to philosophy (Rasool and Chopra, 1989). During the period of Kanishika, Kashmir became the centre of Buddhism and the Third Buddhist Council was convened in the valley in the first century A.D. Over many centuries, students and scholars from India continued to flock in the valley for higher studies. There was also a regular stream of pilgrims and scholars from central Asia and China to study Sanskrit texts in Kashmir (Seru, 1975).

During the Muslim rule in Kashmir, the promotion of learning continued in Sanskrit and Persian. Maktabs and Madarasa were founded where Sanskrit and Persian was taught.

The Muslim ruler Sultan Zain-ul-Abbidin known as 'Budshah Sahib' (1420-1470 AD) is said to have founded a University at his Capital 'Nau-Shar' (Rasool and Chopra, 1986). The Mughals were also great patrons of education and opened many colleges and schools in Kashmir. At this time, Kashmir was considered to be a great centre of learning culture and art (Seru, 1975). After Muslim rule in Kashmir, education started deteriorating. It was during the Chak Dynasty that educational developments got strangled and the decline in education continued through the rules of Afghans and Sikhs.

Thus, Kashmir, is once stood as a pioneer of progress and beacon of enlightenment, at the end of seventh century went on declining under tyrannies and extortions of her rulers. By the early years of nineteenth century, the cultural glories of her past had disappeared. No doubt, education even now was imparted privately by Molvies in Maktabs associated with mosques and in Pathshalas manned by pandits. The education was restricted to religious scripts and sacred books.

Education in Pre-Independence Period

In 1846, the state of Jammu and Kashmir as a single political entity came into existence under 'Amritsar Treaty' signed by Maharaja Gulab Singh and the British government. At this point of time, educational scene of Jammu and Kashmir looked like a dark spot on the educational map of the world. Maharaja Gulab Singh, spent most of his time in consolidating the territories. It is believed that he did little in the field of education. After the rule of Maharaja Gulab Singh, the throne of the state passed on to his son Maharaja Ranbir Singh (1857-1885). He was greatly devoted to learning and paid special attention towards Sanskrit literature. He started the first press – the Vidya Vilas Press for printing of books. He also founded 'Translation Bureau' for the translation of books from various languages. Maharaja Ranbir was eager to make Jammu a centre for Sanskrit learning. In this behalf, he established two Pathshalas, one at Jammu and other at Purmandal. During the

rule of Maharaja Ranbir Singh, two oriental colleges were established in the State, one in Jammu and the other in Srinagar (Rasool and Chopra, 1986).

During the rule of Maharaja Pratap Singh (1885-1925) educational system started to be developed on modern lines. Maharaja Pratap took keen interest in expanding the educational system in the state. The schools in the state were reorganised and affiliated to Punjab University. In 1905, two colleges were established in the state. The Prince of Wales College was established in Jammu and Hindu College in Srinagar. Besides, the Srinagar Middle School was upgraded to the status of High School. When we look at the total number of institutions, we find that in the year 1905-06, the number of private institutions was 176 against 161 public school. But the enrolment in public schools was fairly more (Seru, 1975). In 1913, a technical college, namely, Amar Singh Technical College was established in Srinagar.

The successor of Maharaja Pratap Singh, Maharaja Hari Singh (1925-1947) took keen interest in the expansion of education. During his period, an attempt was made to introduce compulsory primary education in the few districts of the State. In 1938, an Education Reorganisation Committee was founded under the chairmanship of K.G. Saiyidian. The Committee made important recommendations regarding introduction of 'Basic Education' or 'Wardha' scheme, drawing up a 25-year plan for universalisation of primary education.

As regards the modern education, it seems that modern education did not exist in J&K till 1880. This type of education was first started by Christian missionaries in private sector by two missionaries, namely, Rev. I.S. Doxey and Rev. J.H. Knowles in 1880 in Srinagar. By the time government had also started taking interest in the modern education. In 1890, there were eight such primary schools in the state. By the end of the century, the number of such schools rose to 33 in Jammu, 14 in Kashmir, and five in Ladakh including Gilgit. But, the literacy

percentage as per the census of 1901 was as low as 2 per cent in the state (Lawrence, 1985).

Development of Education in Post-Independence Period

By the year 1946-47, the total number of educational institutions kept on steadily increasing for both boys and girls with 2,158 institutions (with 335 girls schools) and an enrolment of 1,34,309 including 22,011 girls (Seru, 1975). When India achieved independence, in 1947, a large part of the State went under the occupation of Pakistan – now called Pakistan occupied Kashmir (PoK) and we lost a number of educational institutions.

In the year 1947-48, the number of institutions fell to 1,835 with an enrolment of 1,45,933 including 17,793 girls. The decrease continued in the year 1948-49. The number of institutions further fell to 1,444 including 267 girls schools. Now, the enrolment in Indian held Kashmir remained 91,706 including 19,731 females (Seru, 1975).

After 1949-51, there was again increase in the educational institutions, enrolment and cost of education which is still continuing.

Among the most important features of educational developments in the state, a few are mentioned briefly as under:

(i) In 1950, an Educational Reorganisation Committee was appointed under the chairmanship of A.A. Kazmi. The Committee made recommendation regarding universalisation of primary education.

(ii) In 1948, the University of Jammu and Kashmir was founded.

(iii) Two colleges for women were started one at Jammu and the other at Srinagar.

(iv) When the Constitution of Jammu and Kashmir was adopted in 1956, it provided for free and compulsory primary education. Article 20 of the Constitution provided that "within the period of 10 years from the

commencement of this Constitution (20 October, 1956) compulsory education for all children until they complete the age of 14 years".

(v) The Bhagwan Sahay Committee was appointed by the Government of Jammu and Kashmir to review the development of education in the State and make recommendations in the light of Indian Education Commission Report (1964-66). The committee submitted its report to the government in 1973. The committee made recommendation from pre-primary education up to higher education. It endorsed the 10+2+3 scheme of education for the state and virtually rectified the recommendation of India Education Commission (1964-66) with some reservations.

(vi) In 1974, the state government framed Private Educational Institutions Grant-in-Aid Rules under the provisions of Private Institutions Act, 1967.

(vii) In 1969, the Academy of Art, Culture and Languages was established as an autonomous body. The academy encourages language, literature, music, drama, dance, painting, sculpture and architecture. In the same year, the Jammu and Kashmir University Act was passed and the University of Jammu was established under this Act.

(viii) The Jammu and Kashmir State Board of School Education was established under J&K Board of School Education Act, 1975.

(ix) On 18th of April, 1984 The Jammu and Kashmir School Education Act (1984) was passed to achieve the goal of universalisation of elementary education, and to provide for better organisation and development of school education in the state. This Act also provides that, "The government shall provide free and compulsory education for children upto the level of class VIII throughout the State within a period of 10 years from the commencement of this Act."

Education at Present

All these efforts lead to a situation where we find a large expansion in establishment of schools, recruitment of teachers, provision of educational facilities, increase in expenditure and making the system functional with the result that the literacy percentage rose from 2 per cent in 1900-01 to 11.03 per cent in 1961, 18.58 per cent in 1971, to 26.17 per cent in 1981 and now 54.46 per cent – still the literacy percentage of the state is lowest in the country after Bihar and Jharkhand. However, there has been sweeping increase in enrolments all along these years. Now 90.5 per cent enrolment is registered in class I-V and 62.3 per cent up to class V-VIII as has been estimated. The number of students enrolled up to class VIII has been recorded as 14,37,388 and up to XII class, it is, 1,742, 406. The number of schools steadily increased from 1,835 in 1947 to 15,488 in 1998-99 out of which 14,022 are elementary schools including private aided and unaided schools (Department of Statistics and Planning, J&K Government).

The number of teachers have also gone up to 87,745 including 32,002 and 4,436 teachers working in private unaided and private aided schools respectively (Department of Education).

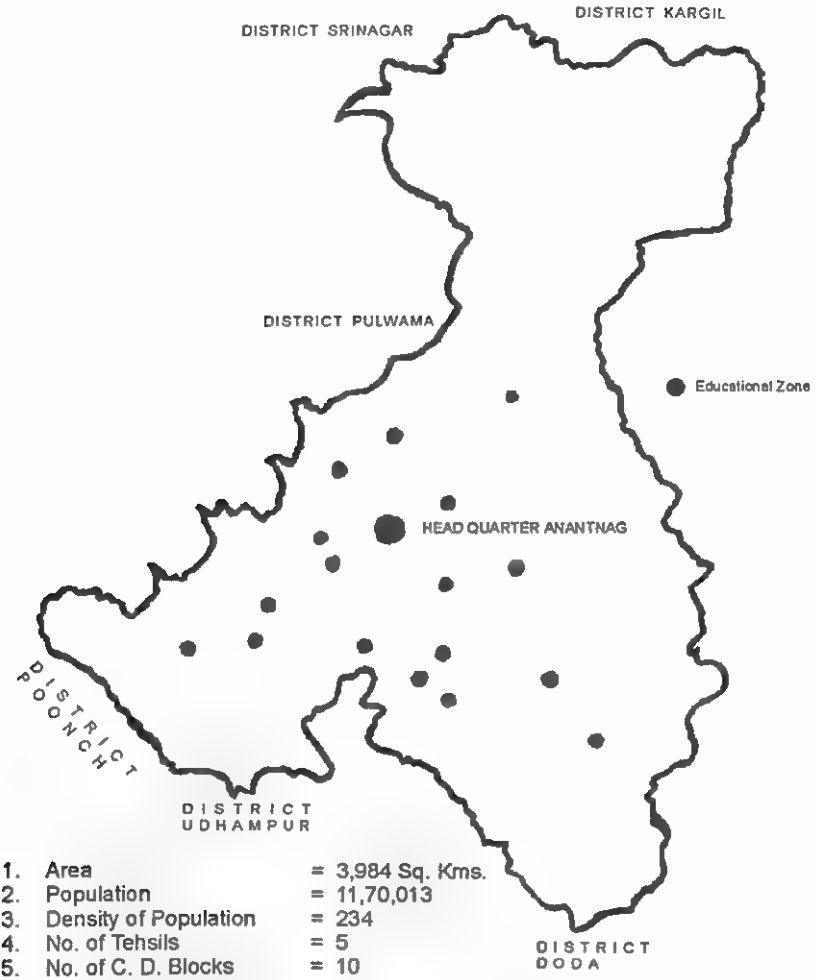
District Profile of Anantnag

Anantnag – the biggest town of Kashmir after Srinagar is situated in 33° 44′ North Longitude and 75° 12′ East Latitude and about 55 kms away in the south-east side of Srinagar on the bank of river Jhelum.

The southern side of this district is contiguous with tehsils of Reiase, Ramban, Banihall and Kishtwar. The eastern side is contiguous with district Kargil and Leh of Ladakh province, while as on the north side of it lies district Pulwama.

The district spreads over on area of 3,984 kms, which is about 4 per cent of the total area of J&K state. The population of the district has been recorded as 11,70,013. The male

MAP OF ANANTNAG DISTRICT



1.	Area	= 3,984 Sq. Kms.
2.	Population	= 11,70,013
3.	Density of Population	= 234
4.	No. of Tehsils	= 5
5.	No. of C. D. Blocks	= 10
6.	No. of Educational Zones	= 18
7.	No. of Villages	= 626
8.	No. Panchayats	= 113.
9.	Literacy Percentage	= 44.10
	• Male	= 55.50
	• Female	= 31.51
10.	No. of Govt. Schools	= 1492

Source : India 2001 Population Totals of J&K.

population consist of 6,08,720 while as the number of female population in the district is 5,61,293. The density of population per sq km is 234 in the district (*Census 2001-Provisional Population Totals*, Jammu and Kashmir). The district consists of 5 Tehsils which had been further divided into 10 CD blocks. The total number of villages in the district is 626. Besides, there is one Municipality, eight Notified Area Committees and 113 Panchayats.

Owing to the proximity of Peer Panchal Range mountains, the district has more temperate climate in summer and relatively low temperature in winter than other districts of the valley. Of all the districts of the state, Anantnag claims the largest number of streams (nallas or small rivers) like Veshow, Sandran, Brengi, Arpath and Lidder. The district has also a number of springs like Kounsarnag, Sheshnag, Nagbal, Malaknag, Mattan, Aharbal, Verinag, Kokernag and so many other springs in small villages. Of these springs – the Malaknag spring, situated in the heart of town, is sulphurous, and its water is highly prized for garden cultivation (Lawrence, 1985) the local people believe in the medicinal value of its waters as it helps in curing the skin disease like itching by taking bath in this spring. The water of Kokernag is the best source of drinking water and good for digestion.

The district of Anantnag is called the granary of the valley as it has important status in production of foodgrain, pulses, dry fruits, and vegetables. The area is also renowned for handicraft activities like 'gubba' making, 'nambda' making crewel embroidery, willow works and chain stitch, etc.

The district is known for cultural harmony and secular character of people who believe in co-existence of religions. One can find the places of worship of people belonging to different faith in one place. For example, the mosque, the Hindu temple and Gurdawara exist side-by-side in the heart of town.

Occupational Concentration and Places of Importance

Agriculture is the main source of livelihood of the people in the district. About 80 per cent people of the district are involved in

agriculture-related activities. A good number of people earn their livelihood by means of handicrafts like carpet weaving, crewel embroidery, 'gubba' embroidery and willow work.

Anantnag is famous for various shrines, temples and health resorts. Among the well-known shrines are those of Zairat-e-Rashe Maloo (Baba Hyder Rashe), Zain-ud-Din Wali, Syeed Hussain Simnani and Baba Naseebu-Din. The famous temples are the Sun temple at Marthand and the holy Amarnath cave. The Phalgam, Kokernag, Achabal, Verinag and Duksum are some important health resorts of Anantnag.

Phalgam is one of the most famous health resorts of J&K. It is situated in the north-east of Anantnag town at an attitude of 7,200 feet. Its cool invigorating, salubrious and pleasant climate along with, the melodious flow of 'Lidder Nalla' attract tourists not only from within the country but also from outside as well, especially Europeans.

The other important health resorts of Anantnag are Achabal, Kokarnag and Verinag. These health resorts attract tourists from all over the world. The pure water of Kokarnag spring is famous for it is medicinal properties. The beauty of these health resorts is added by the springs having crystal clear water and aesthetically managed garden terraces.

Education in the District

Education has made tremendous progress in the district. The school facilities have reached almost all villages of the district, except a few, which do not have even a primary school. The enrolment of students has gone up considerably. People in general realise the importance of education and take the education of their children very seriously. The search of quality in education has given rise to a phenomenon where private schooling has become popular in the district. The number of private schools, from pre-primary to higher secondary schools, including coaching centres and computer centres is rising day

by day in the district. There are many mobile schools that cater to the educational needs of nomads like Gujjars and Bakerwals. But the literacy percentage could not be raised tremendously. It has remained very low in comparison to national and state level percentages. The present literacy rate in the district is 44.10 per cent (55.50% in case of males and 31.58% in case of females) as per the *Census 2001 – Provisional Population Totals*, Jammu and Kashmir.

The district has been divided into 18 educational zones; each zone is supervised and controlled by one zonal educational officer. At the apex, there is one Chief Education Officer assisted by one Deputy Chief Education Officer, one District Education Planning Officer and one Adult Education Officer works under his control who looks after 400 Adult Education Centres in the district.

At present, there are 1,492 educational institutions up to class XII (both private and public) besides, two degree colleges and one B.Ed college in the private sector. This sector-wise break up of schools is given in table 2.1.

Table 2.1
No. of Educational Institutions in District Anantnag

Status of School	*Public*	*Private*	*Total*
Primary Schools	881	116	997
Middle/Elementary Schools	254	128	382
High Schools	76	18	94
Higher Secondary Schools	18	1	19
Colleges	2	1	3
Total	1231	264	1495

Source: Department of Statistics and Planning, J&K Government.

The enrolment has increased at all levels of education in the district. Up to class XII the enrolment increased to 1.95 lacs in 1999 from 1.12 lacs in 1989. Table 2.2 shows the sector-wise enrolment up to class XII, up to the year 1998-99:

Table 2.2
Enrolment in the Schools up to Higher Secondary Schools in District Anantnag

Status of School	*Public*	*Private*	*Total*
Primary Schools	87426	34086	121512
Elementary Schools	33517	12661	46178
High Schools	12843	2416	15259
Higher Secondary Schools	12407	238	12645
Total	146193	49401	195594

Source: Department of Statistics and Planning, J&K Government.

Although the number of schools in the district and the enrolment therein presents a rosy picture, but the credentials are not very well reflected in the current standards of education being imparted in those schools. However, this is in exception to some of the private schools. The reasons are varied and difficult to substantiate, especially due to militancy in the state. During the last 10 years of turmoil in the state, education did not remain unaffected, the very structure of the education system was shaken, as many school buildings were set ablaze and many were occupied by the security forces. Besides, teachers were killed, money to spend was misappropriated, appointments in the department were made not on the basis of merit but on the basis of either favour or pressure. All this ultimately resulted in the deterioration of the system at large but, the things are now becoming better day by day. The Government of India has released special grants for reconstruction of gutted buildings. During the turmoil, the menace of copying that had taken the shape of a fashion is now fully checked and the system is back on the track.

3

Quality in Education: A Review of Literature

The review of the literature helps an investigator to get into the frontiers of knowledge that are related to his area of interest. According to Millar (1965), research workers must be aware of what is known with some degree of certainty what is accepted as truth by some and not by others, must have some inkling of the nature of unexposed areas where additional research should be conducted. The review involves locating, realising and evaluating research reports as well as reports of observation and opinion that are related to the individual's planned research project. As such the investigator cannot have an insight into the problem to be investigated, unless and until he learnt what others have done and what remains to be done in a particular area of interest. Thus, the related literature, besides forming one of the early chapters in the research report for orienting the readers, also serves some other purposes which are given by Good, Barr and Scates as follows:

(i) To know whether the evidence already available solves the problem adequately without further investigation and thus to avoid the risk of duplication.

(ii) To provide ideas, theories, explanations or hypothesis valuable in formulating the problem.
(iii) To suggest methods of research appropriate to the problem.
(iv) To locate comparative data useful in the interpretation of results.
(v) To contribute to the general scholarship of the investigator.

Justification of Literature

The researcher has tried to find out the needed studies in the area of academic achievement, school quality, funding and socio-economic status (SES) during his hunt for related literature. It was found that there was no study available which was parallel to the present study. All the studies had other different combination of variables or were taken at different levels and on different sample.

In the light of the importance attached to related literature, the investigator highlights briefly the significance of research in elementary education and summarises the relevant studies that have been conducted in this area.

Primary education has received a global attention in the recent past. The vision of primary education has also undergone a change after the publication of the report of World Conference on Education for All (WCEFA) Inter Agency Commission, 1990. A new terminology 'basic education' has emerged in place of elementary education consisting of five years of primary and three years of upper-primary education. This basic education is considered more than an end in itself. "It is the foundation for lifelong learning and human development on which countries build systematically further level and types of education and training" (Dave and Murthy, 1994). There is a full agreement in the fact that elementary education is a 'pure public good' as its benefits are immense both for individual as well as for societies on the whole. This being the reason, all nation countries and international agencies and donors had set

the aim of universalising quality type elementary education all over the world.

However, the research in this priority sector of education has mostly remained confined within the developed countries and especially in USA and UK till the 1960s. As regards to developing countries and particularly in India, research in elementary education is not providing a healthy sign. A bibliography of research brought out by NCERT (Dave and Murthy, 1994) revealed that out of 1,800 research abstracts only 54 studies were carried on primary education,

The investigator after scanning the available literature on the subject, presents a few studies that pertain to the variables in question. The relevant studies which are considered for the summary have been classified as:

- Studies related to academic achievement and school quality.
- Studies related to achievement and school expenditure.
- Studies related to achievement and school type.
- Studies related to achievement and SES.

Studies Related to Academic Achievement and School Quality

Magdalena Mok et al. (1997) conducted a study to examine the relationship between 12 year students' perception of life in Catholic schools and their achievement in High School Certificate (HSC). It investigates whether the quality of school life which students experience differ across Catholic schools and whether it still affects the students' achievement in HSC when the school and student background variables are controlled. The study was conducted by surveying 4,949 students from 44 Catholic high schools (13 all-boys schools, 10 all-girls schools and 21 co-educational schools) in New South Wales, Australia.

The study was conducted during the year 1990. The students' achievement was measured by their Tertiary Entrance

Score (TES) at the HSC examination in November 1990. The quality of school life was measured by using 'The Quality of School Life Questionnaire'. This questionnaire was used to examine the relationship between students' experience of school life and their achievement in HSC examination. The questionnaire is a 40-item self-report, Likert scale with five response categories. The quality of school life was conceptualised in terms of the following dimensions:

(1) Positive affect.
(2) Negative affect.
(3) Satisfaction with two specific dimensions of school (curriculum-related factors and social development factors).
(4) Satisfaction with school.
(5) Alienation from school.
(6) Relationship with teachers.
(7) Student's sense of achievement.
(8) Relevance of school.
(9) Sense of identity.
(10) Self-esteem and status.

The results of the study are presented in relation to the research questions raised earlier. The major findings of the study were:

(1) TES is related positively to quality of school life.
(2) TES is the functions of both schooling and quality of school life.
(3) There is a positive relationship between the quality of school life and XII class student achievement. The relationship was strongest between students' sense of achievement and their TES.
(4) Students with better educated parents scored higher in HSC examination irrespective of school's type, school socio-economic status (SES), student gender, and quality of school life.
(5) High SES schools scored better at HSC examination than either the medium or low SES schools, after all other

background variables and quality of school life were controlled.

The clear picture which emerges from the analysis is that Catholic schools differ considerately in their overall HSC achievement and that the schools contribute to the variation in student outcomes. For most Catholic schools in this study, students' perception of quality of school life influenced their achievement in similar ways across schools: those who enjoyed schools tended to achieve a higher level.

Behrman et al. (1997) conducted a study to examine the importance of school inputs other than students' time in schooling effectiveness in rural Pakistan. The sample integrates individual and household data with school information to control for selective school attainment and mitigate omitted variable biases.

The sample for this study was drawn from a household survey rather than a school survey, conducted by the International Food Policy Research Institute (IFPRI), under auspices of Pakistan Ministry of Food and Agriculture. Besides, in this household survey, a questionnaire was designed to yield the indicators of school quality and was administered to teachers in local and nearby schools. The target sample was administered with tests of literacy and numeracy specially designed by the 'Education Testing Service.' The sample was also exposed to the Raven (1956) coloured progressive matrices (CMP), a test of reasoning. Family background and school variables were also taken into consideration in detail. The data were analysed after using it on GAUSS computer package.

The major findings of the study include:

(i) The schools vary substantially in their effectiveness in producing cognitive achievement in Maths and reading,

(ii) Most of the school effects are correlated positively with student exposure to teachers, teacher-pupil ratio and teacher quality, and

(iii) Neither the school materials nor infrastructure are significantly associated with cognitive achievement.

Kathryn (1996) attempted to develop and estimate a model of an individual's high-school graduation decision within the framework of utility maximisation. The model combines the idea of background characteristics being inputs in the production of educational attainment and that of an individual who makes decision in response to the expected return to graduation. By explicitly modelling the expected returns to graduation of each individual, the investigator was able to separate the non-income effects of family, neighbourhood and school characteristics on educational attainment (the education production process) from linkages through which these characteristics influence youth's expected returns to education and hence attainment.

(1) The findings of the study suggest that youth do make their schooling decision based on the expected income returns to education.
(2) Most of the effects of family, school and neighbourhood are working through the education production process.
(3) The school and neighbourhood quality both effect schooling attainment.
(4) When neighbourhood characteristics are controlled, school quality has an effect on the probability that individual will graduate. However, when neighbourhood characteristics are not controlled these effects are masked. In this case school expenditures per student do not appear to affect the probability of graduation:

Heyneman and Loxely (1983) measured effect of primary school quality on academic achievement in 29 countries and found that the proportion of explained test score variation attributable to school quality was lowest in countries such as Swedan, Japan, Australia and United States, but was two to

three times higher in countries such as Botswana, India, Thailand, Bolivia, Colombia and El Salvador.

Das (1974) conducted a study to ascertain whether there was any impact of the physical conditions (facilities) of primary schools on the retentively and regular educational programme of its children.

Data were collected from a representative, sample of 380 primary schools in Sibsagar district in Assam. These schools constituted about 15 per cent of school population in the district. The sample included a proportionate representation of schools in urban and rural areas. The relationship between physical facilities in schools and the deficiency in education was determined by computing the product moment correlation coefficient. Association between physical facilities and wastage in education was also tested by applying the chi-square test.

The study revealed that there was significant relationship between efficiency in education and physical facilities in schools. The school conditions definitely seemed to have a favourable impact on school education. Better physical facilities increased the attractive and retentive power of the school as well as provided situations conducive for effective education and hence contributed towards better education of children in that school.

Varghese (1994) conducted a study under District Primary Education Programme (DPEP) on learner achievement and school quality. The major objectives of the study were:

1. To assess the status and functioning of primary schools,
2. To measure the levels of learner achievement at primary level of education,
3. To identify the factors influencing learner achievement, and
4. To delineate factors contributing to school effectiveness.

The study was initiated in the three districts of Kerala, namely, Malapuram, Kassergode and Wayanad selected under DPEP programme. The sample size constituted of 113 schools, 502 teachers and 2,230 grade II children and 3,089 grade IV children, taken from 8 blocks and 3 municipalities of three districts. The target students were administered the achievement tests in Malayalam language and Mathematics. The major findings of the study are as under:

1. Schools managed by private sector show marginally better performance than government schools.
2. Parental education and occupation are also important factors associated with learner achievement.
3. There exists no direct association between school facilities and performance of children in grade IV test.
4. Boys have very marginal advantage in Mathematics and girls in Malayalam.
5. Sex of learner does not seem to be important in predicting learner achievement.
6. The level of school infrastructure and variations in the availability of teaching material seem not to be closely related with levels of learning.
7. The mean scores in grade IV are depressingly poor in all districts in comparison to grade II students. The mean score for the entire sample is 37.2 per cent as against 59.3 per cent in case of grade II students.
8. In Malayalam, the mean score for the whole sample is 67 per cent of grade II whereas it is only 47 per cent in favour of grade IV children.

Duraiswamy (1999) compared the cost, some indicators of quality and outcomes in public and private sector primary schools, using a primary survey data from rural Tamil Nadu. The data for this study was collected as part of a long survey for UNDP research project on elementary education in Tamil Nadu. Two districts, viz., North Arcot and Dharampuri of the

state were selected for data collection. Six and four villages respectively were taken from these districts. The data was collected from 3,868 households and 31 schools from these villages. The children from chosen villages and schools were subjected to the achievement tests in language and arithmetic. Besides, questionnaires were used and canvassed to headmasters and teachers to elicit information on their education, experience and teaching methods, etc.

The study aimed to examine the effect of school management and other individual and household level factors on the verbal and mathematics achievement of children in class IV and V. The institutional and household effects with respect to expenditure incurred on schooling was computed from survey data.

Major findings of the study are summerised as under:

(1) The institutional unit cost was computed for public, private and private unaided schools. The annual recurrent institutional unit cost was about Rs 1,000 for all primary schools. The per student unit cost was the highest in private aided schools which incurred Rs 1,574 per year. In case of private schools, it was calculated to be Rs 174 only.

(2) The rather low cost of private unaided schools, despite due to low teacher-pupil ratio was because of very low teacher salaries.

(3) 95 to 98 per cent of expenditure accounts for teachers salaries.

(4) The teaching materials that are included under other items constitute a very insignificant percentage but it is higher in the private unaided schools than other schools.

(5) The teacher-pupil ratio is highest in government schools and lowest in private unaided schools.

(6) Boys seem to perform better than girls in the IV grade in Mathematics.

(7) Students from private unaided schools do significantly better than public school counterparts and private aided school students in both the classes and subjects.

Singh and Saxena (1995) attempted to study the effects of school-related variables on pupil achievement using the Baseline Assessment Studies (BAS) data in eight states. The main objectives were to study:

(i) The variation in achievement in Mathematics and language within and between schools;
(ii) The effects of pupil's background on their Mathematics and language achievement;
(iii) The difference between school variation in Mathematics and language achievement of students;
(iv) The effects of teacher quality on achievement in Mathematics and language across schools;
(v) The contribution to Mathematics and language achievement between schools by the school resources; and
(vi) The association of school academic climate with the pupil's achievement between schools.

The data collected under BAS was used in this study. The four DPEP target districts were selected from eight states. The sample size constitutes of 1,746 schools, 23,700 students and 4,879 teachers. The students were taken from class IV and V. The standardised tests on mathematics and reading were administered on these students.

The three sets of school level variables were included in the HLM analysis independently after adjusting for the pupil's background and contextual variables This approach was adopted for all the eight states. In order to have synthesis of state results, the regression coefficients and their standard error with probability level less than 0.20 for each variable was taken for applying meta analysis with the help of HLM computer programme.

The main results were:

(i) There are large and statistically significant differences between boys and girls within schools in their achievement in Mathematics in states of Assam, Haryana,

Karnataka, Madhya Pradesh and Orissa. These differences are also found statistically significant in language achievement for all states except Haryana and Kerala.

(ii) At the school level, the mean SES is positively associated with the achievement in Mathematics and language after adjusting for pupil's background.

(iii) Mother's and father's education and father's occupation have positive association with pupil's achievement and are mostly consistent across states.

(iv) The factors of educational and physical facilities in schools have positive association with school mean achievement in Mathematics.

Studies Related to Achievement and School Expenditure

Harter (1999) conducted a study to enquire about the relationship between school expenditures and student performances. The data for this study was taken from Public Education Information Management System (PEIMS) database of the Texas Education Agency (TEA) and include school spending and student information of the entire state. The final working sample contains information on 2,860 public elementary schools in Texas.

Student achievement for the elementary schools is measured at grade IV student's level of achieving mastery in Maths and reading. Variables representing student's academic potential and socio-economic background are also reported in the PEIMS data. In this study, expenditure for instruction are divided into 11 object categories of payroll, purchased services, materials and supplies and other operating expenditures.

Multiple regression analysis was used to estimate the relationship between school's per pupil expenditure and average student achievement while holding constant student academic potential, students socio-economic background and school characteristics.

The major findings of this study include:

1. Socio-economic background does play a greater role in explaining performance in reading as opposed to maths.
2. Spending for regular school upkeep, which includes the provision and maintenance of school equipment, rentals and basic utilities, relates positively to student outcomes.
3. Expenditures for teachers, base salaries do not demonstrate a significant relationship with achievement.
4. Expenditure for functions outside the institution including school administration, instructional media, guidance, health services, extra curricular activities and staff development fail to show a significant relationship with fourth grade student's maths and reading performance.
5. The low-achievement schools have relatively high payroll expenditures per pupil.

David (1992) conducted a study with purpose to identify the relationship between educational expenditure and student achievement in Texas Independent School Districts with an enrolment of between 1,000 and 3,000 students during 1989-90. The relationship of socio-economic status (SES) and ad valorem wealth to achievement also were analysed.

Financial and achievement data were obtained for the defined population for the Texas education agencies Public Education Information Management Systems (PEIMS) database. The data were analysed to identify the relationship between the various financial data and grade XI students achievement. A comparison of four groups of school districts designated by ad valorem wealth and SES was also conducted to identify differences in student achievement.

The major findings of the study were as follows:

1. Total expenditure per student and direct average teacher salary had a direct relationship with the achievement in mathematics but not in languages and art.

2. No significant direct relationship with the student achievement was shown for instructional operation expenditure and per student expenditure on support services.
3. Differences between high and low ad valerom wealth and student achievement were found between high SES and low SES groups. This means that SES is a dominant factor related to higher student achievement when compared with district wealth.

Psacharopoulas et al. (1997) studied to examine the extent of private expenditure on education in a country that is amongst the poorest – Bolivia.

This country is known for high illiteracy and repetition rates. Private education is found at all levels of schooling. At the primary and secondary level 22 per cent of students were enrolled in private schools. The proliferation of private school in Bolivia is the result of inability of public schools to provide a quality education.

The data used in the analysis came from both the 1990 and 1992 'Encuesta Intergrade de Hogares' carried out by the Institute Nacional de Esladistica. The survey was carried out in nine cities with 30,350 respondents in 6,347 households. The survey contained information on various household expenditures along with other household and individual characteristics. Information covered the topics such as education, migration, health and employment.

After data analysis, the investigators found that Bolivian household spend privately on education because quality of public education system is low and generate high repetition rates. They also found that private school students outperform public school students in their studies. Since, education in Bolivia has such high reward in terms of income, it is no wonder that parents in Bolivia would react to poor public school quality by sending their children to private schools.

Middleton (1996) conducted a study with the purpose to examine the relationship between school expenditure and student academic achievement in 127 public schools in district of Alabana. The three categories of per pupil expenditure examined in the study were instruction, instructional support and general administration and central support services, while student performance was measured by the Stanford Achievement Test. The subjects were 4th, 7th and 10th grade students enrolled in 127 Public School Districts of Alabana. The data were analysed by computing correlation coefficient between achievement and expenditure variable, then being regressed on expenditure variables to determine whether relationships are significant.

When considering the data from all 127 districts, the study found that there is a significant positive relationship between public school instructional expenditures and student academic achievement. However, when these relationships were considered for separate socio-economic groups, only that for highest socio-economic level was found to be significant. No significant relationship was found in the other groups. The instructional support expenditures category showed no significant relationship with achievement for any of the separate group or for the state as a whole.

These findings indicate that the relationship between expenditure and achievement is a curvilinear, rather than linear relationship.

Manvikar (1982) studied the relationship between expenditure pattern and efficiency levels of secondary schools of Bangalore district. The main objectives of the study were:

(i) To identify and classify the components of expenditure of secondary schools of Bangalore district.

(ii) To compare the expenditure patterns of different types of secondary schools of Bangalore district.

(iii) To find out the relationship between components of expenditure and components of efficiency of secondary schools of Bangalore district.
(iv) To compare the efficiency patterns of rural and urban secondary schools.

The data was collected in three educational districts of Bangalore revenue district. From the 313 secondary schools of three districts, only 110 schools were finally taken for data collection. The sample constituted of 68 city schools and 42 rural schools.

The researcher had developed a composite questionnaire containing three parts. In part A, general information about the schools was collected. In part B, the information about the expenditure pattern was collected and in part C, through a self rating scale for the headmasters the operational efficiency of the secondary schools was arrived at.

The data was analysed using mean, standard deviation, t-test, correlation, and regression analysis.

Some of the major findings of the study include:

(i) Government and Corporation schools tend to be less efficient than private unaided and private aided schools.
(ii) The major part of the school's total expenditure (55-70 per cent) is incurred on teacher salaries.
(iii) The expenditure on salary, overall recurring expenditure and total expenditure is not significantly related to school efficiency.

Rean (1969) of University of Minnesota conducted a study to find out the relationship between expenditure per pupil and achievement in English.

In this study cost input in education was measured as an independent variable and achievement in English as dependent variable and scholastic aptitude and socio-economic status as co-variables.

An adequate sample was drawn from 48 schools. Multiple regression analysis was used for statistical analysis. The results

indicated that there was no significant relationship between per pupil expenditure and achievement of pupils in English.

Brickell (1958) found that small expenditure item had considerable relationship to efficiency. Brickell's findings suggest that good schools do not spend more money on everything and there is a high correlation between some items of expenditure and efficiency of education.

Ross (1958) conducted a study to find out the cost efficiency relationship in education. His study pointed, that all areas of school performance do not necessarily improve with increased expenditure.

Chubb and Moe (1990) concluded that money is not what makes some schools more effective than others. Better schools do not require lots of expensive equipment or huge new buildings or vast libraries. The performance problems of schools have little or nothing to do with inadequate funding, and they cannot be corrected by digging deeper into the public purse.

Padan (1988) conducted research work to study what primary schooling is expected to produce and what it actually produces. So it was found imperative to learn more about how primary schools function, what they accomplish in terms of investment and its effectiveness in education and also the inputs and outputs.

The following are the main objectives of the study:

(i) To examine the expenditure as input from different sources on pupils and staff from institutional and organisational managements, and

(ii) To analyse the production function of elementary education by examining the output of education compared with inputs.

Methodology: The area of operation for this study was district Sambalpur of Orissa. The major sample consisted of 504

individuals, 72 selected purposively from each of the strata (sub-divisional headquarters) representing the district. Two students from every grade of each school, one from urban area and other from rural area were selected randomly by using Tippet's random numbers, resulting in 204 students finally. The investigator had employed three interview schedules as basic tools for collection of data from teachers, students and the labour force.

After the data analysis, the investigator came up with the following major findings:

1. Major expenditure comes from the government and minor expenditure was incurred on students.
2. The societal cost consisted more as compared to students' incidental cost.
3. An average of 31 per cent of resources were wasted due to drop-outs and stagnation.
4. None of the variables, i.e., school cost, teacher qualifications, teachers experience, and students SES had significant impact on scholastic achievement of pupils when the effect of the remaining variables were held constant.

Zahid (1996) investigated the costs of education and academic performance in senior secondary schools of Delhi. The objectives of the study were to (i) determine the private and institutional costs of education in senior secondary schools, (ii) examine the academic performance in senior secondary schools, (iii) assess the impact of cost on academic performance in senior secondary schools, (iv) ascertain factors attributable to high and low academic performance in senior secondary schools, and (v) develop a composite index of efficiency costs and academic performance in senior secondary schools.

Sample: Twenty-four schools were selected on purposive basis of each type covering government, government aided and private from each zone. From these schools of Delhi the sample size constituted of 240 teachers and 360 students having been selected at random.

Tools: The tools used to collect data included questionnaires, data schedules and observation schedules. Percentages, mean, SD t-tests, factor analysis and correlation techniques were applied to analyse the collected data.

Besides other findings, the important findings of the study are:

(i) The per student institutional cost worked out to be Rs 1,677 for government school students, Rs 1,556 for government aided schools and Rs 1,225 for private school students.

(ii) Salaries of teaching staff proved to be the major component of institutional cost, i.e., 81 per cent.

(iii) Teacher-pupil ratio for government school was 1:39, government aided schools was 1:33 and private schools was 1:32.

Tilak (1995) conducted a study on state finances in six states (Assam, Haryana, Karnataka, Kerala, Maharashtra and Tamil Nadu) as a part of DPEP's several baseline studies that provide statistical description and analytical profile of the pattern of financing of education (particularly elementary education: primary and upper-primary), and projections on the financial requirements of elementary education in each state, if elementary education were to be universalised by the turn of the century. One of the major finding of the study was that the salaries of the teachers and other staff consume the largest proportion of the budget, leaving little amount for other items.

Studies Related to Achievement and School Type

James et al. (1996) investigated the impact of public vs. private finance of education and public vs. private management of schools on school cost and efficiency, using school level data on revenues, expenditure, enrolments, examination scores and student characteristics from Indonesian primary schools. The data for analysis was taken from National Survey of public and

private schools in Indonesia conducted by the Ministry of Education and Culture, 1992. The survey collected data on a wide range of school level variables including number and salaries of teachers, conditions and availability of classrooms and libraries, level and source of funding, type of expenditure and average score on sixth grade national examination in Mathematics and Bahasa Indonesia.

The objectives of the study were to know whether:

(1) publicly or privately managed or financed from public or private sources behave differently, in terms of their inputs and costs;
(2) one arrangement has an efficiency advantage over the other; and
(3) factors that determine school efficiency, does also determine the amount of public and private funding.

In this study the authors found that:

(i) In Indonesia, where schools generally operate at very low funding level, more money is likely to bring better school quality.
(ii) Private management is more efficient than public management in achieving academic quality.
(iii) Private funding also improves efficiency whether schools are publicly or privately managed, and
(iv) Private managed schools behave differently from public managed schools because they have different objective functions, greater autonomy and they have to face greater pressure from market place to operate efficiently.

White (1992) conducted a study to determine whether existing research allows us to answer a narrow but crucial question in the larger debate over educational choice. Are student achievement differences between public and private schools large enough to be of relevance to the policy debate over

educational choice. To answer such a query, the author has analysed the research based on High School and Beyond (HSB) study. The HSB study was based on random sample of approximately 1,000 public and private schools. The study consisted of three waves of interviews, testing and data collection.

The major results of the study are as under:

(i) Once public and private schools are statistically equated, they appear to produce similar gain in achievement.

(ii) On an average, Catholic school students, scored slightly higher in vocabulary and mathematics test than public school students.

(iii) Student background characteristics like SES largely influence the educational gains.

(iv) That the difference in achievement in public and private schools are trivial in size and highly uncertain.

Goldhabar (1996) conducted a study to answer the question of whether public or private school choice is a policy that would help improve the overall achievement of students. Separate models of achievement were estimated, from which estimated sector achievement differentials were calculated. The data used for analysis was derived from first two waves of the National Educational Longitudinal Study of 1988 (NEL, 1988). This data has the advantage of being the only national survey (of United States) to date that has detailed schooling information on both private and public school students. NEL, 1988 also includes the results of standardised test on four subject areas: maths, reading, science and history. The tests were administered at two points in time. The initial tests were administered to students during the second semester of 8th grade and the first follow-up survey re-tested the same students in the second semester of the 10th grade. The maths sample consisted of 3,347 students in grade 10th with 451 private school students while as the

English-reading sample consisted of 3,190 students including 399 private school students.

The statistical analysis and interpretation showed that students in private schools tend to come from families with more educated parents and have substantially higher incomes. Secondly, the students from private sector on an average outscore their public school counterparts by 7.5 points on 10th grade test in maths and 3.8 points on reading test. Among the major findings, it was ascertained that overall private schools have no statistically significant advantage in the education of mathematics or reading. This finding is replicated when the comparison was made between public schools and the sub-samples of Catholic private schools and elite private schools. However, on an individual level, parents do appear able to make quality distinctions between schools. Parents are more likely to send their children to a private school with smaller class size and higher SES students.

Bashir (1994) investigated as to whether the greater managerial discretion associated with the private sector leads to high academic performance in Tamil Nadu.

A multigrade sampling design was used, yielding an analytic sample of 2,667 pupils in 113 schools (65 public schools, 20 private aided schools and 20 unaided private schools) located in five districts of the state. A maximum of 25 students and five teachers per school were selected, using systemic selection with a random start. The largest sample was subjected to standardised tests in language and Mathematics. These tests were based on class IV curriculum. Background information on pupils, teachers and schools was collected through personal interview using pre-test instruments by the investigator.

Preliminary analysis was conducted using ordinary least squares to important predictor variables at both the pupil and

school levels which could be used in the subsequent HLM analysis and to eliminate variables with little explanatory power.

The two student outcome variables considered in this analysis are achievement in mathematics and reading comprehension. Raw scores on each of the tests, unadjusted for guessing, were used as the dependant variables.

The major findings of the study were:

(i) Neither the father's education nor mother's education seems to effect student performance.

(ii) Aided schools exert a strongly positive effect on mathematics achievement but the effect for reading comprehension are mixed.

(iii) The class teacher ratio has a positive effect on mathematics achievement indicating that schools where teachers handle more than one class actually do better, while as for reading comprehension, the class teacher has the expected negative effect.

(iv) Pupils in schools with better physical facilities score higher.

(v) The main conclusion of the statistical analysis is that after controlling for school variables, and other pupil background variables, private unaided schools performed worse than public schools.

(vi) Other important results include the fact that longer teaching experience seems to produce a negative effect (perhaps due to professional obsolescence).

Veeragahavan and Bhatcharya (1989) studied as to whether school achievement varies in terms of type of school (public school, missionary school, government-run urban schools and government-run rural schools) and whether school achievement is influenced by student's achievement, motivation and teacher effectiveness. The sample was taken from four types of schools and student distribution was as follows: public schools (66); missionary schools (60);

government-run urban schools (102); and government-run rural schools (57). Thus, a total of 285 students constituting the sample with 158 male and 127 females. Besides, 46 teachers teaching XII class, of whom 22 were male and 24 were female teachers constituted teacher sample.

The students were administered the achievement motivation scale devised and standardised by Rao (1996), and the teachers were administered the teacher effectiveness scale devised and standardised by Arora (1978). School achievement was considered in terms of first, second and third divisions obtained on an average in the last three years (1983-85).

The findings of the study were:

1. It was found that there is a significant association between the type of school and school achievement. On an average, the missionary schools have obtained 100 per cent results over a period of three years with 86 per cent first divisions; this is followed by the public school (private schools run under trust) which have obtained 97 per cent result with 52 per cent first divisions. The government schools have been found lagging behind these two types of schools in achievement.
2. The failures have been recorded in government-run urban and rural schools only.
3. There is a significant difference in the achievement motivation of students in terms of types of schools in which they study. Specifically, the students of government-run rural schools have scored the highest motivation scores, followed by the missionary school students.
4. The public school students have scored lowest in the motivation but high in the school achievement.
5. There is no significant difference among four types of schools in term of teacher effectiveness scores. The correlation results have shown that as teacher effectiveness becomes higher, school achievement also becomes higher and vice versa.

Singh (1996) studied the determinants of learner achievement at primary stage using the data of Karnataka State Baseline Assessment Study covering 177 schools, 442 teachers and 2,568 pupils. The objective of the study was to find out the determinants of learner achievement at primary stage by re-analysing the Baseline Achievement Study (BAS) data of Karnataka State alone.

Methodology: A multi-stage stratified random sampling procedure was followed in selection of schools, teachers and students. The sample comprised 30 students of class IV (terminal stage of primary schooling) and five teachers from each of 35-45 primary schools that were randomly selected from each of the 4 districts, viz., Belgaum, Kolar, Mandya and Raichur. The HLM analysis was used to find out the achievement differences among schools. Three models such as null, explanatory and combined were developed for mathematics and language separately.

The major findings of the study include the following:

(1) There were large and significant differences between schools in their mean performance.
(2) Government schools performed lower than privately managed schools.
(3) On an average, boys were performing better than girls.
(4) There was a positive association between mean SES (intake composition) and school mean performance.

Murthy and Kulshreshtha (1999) tried to study whether academic anxiety facilitates or impedes academic achievement in two management systems, viz., private and public schools. A sample of 199 class IX students comprising boys and girls (100 boys and 99 girls) were taken from government and public schools of South Delhi. The Academic Anxiety Scale of A.K. Sinha was used as a tool to collect the data. The collected data was analysed statistically using mean, standard deviation,

correlation coefficient, one-way ANOVA and for post-hoc comparison, Duncan's Multiple-range Tests.

The following objectives were set and studied:

(1) The influence of academic anxiety on academic achievement,
(2) The influence of two management schools on academic achievement, and
(3) The significance of difference among four levels of academic anxiety on academic achievement.

The major findings of the study were as under:

(1) Academic anxiety and academic achievement are inversely and significantly related. It means, as the academic anxiety increases, the achievement level decreases.
(2) That, the mean difference of boys and girls of government and private schools differed significantly on their academic achievement. The private boys have achieved far better followed by private girls, whereas government boys and government girls on the whole do not differ significantly in academic achievement.
(3) It has been found that government and private school students differ significantly (level of significance=0.01) in academic achievement and this difference is in favour of private school students.

Dhar (1986) conducted a study during the year 1985, when the first batch of students in class X were put to examination on the completion of newly introduced syllabus of NCERT in J&K. Before 1985, the X class examination was not held on the basis of NCERT curriculum. Thus, the sample of this study were the students from private and public schools of Srinagar city. A number of 25 students were selected from each sector and the target sample constituted 1,285 students from a number of 50 schools (25 each from public and private schools).

The objectives of the study were as follows:

1. To compare private and government schools on Matriculation results, of 1985.
2. To find out the comparative superiority of one system over the other if any.
3. To find weakest areas of the weakest systems.

Hypothesis: Government schools are comparatively weaker than private schools in terms of Matriculation results of 1985.

Null Hypothesis: There is no significant difference between boys and girls in their achievement in general.

Methodology: The investigator had constructed a questionnaire comprising of two sections for the purpose of collecting general as well as specific information about the results of class X examination. The investigator has applied the, 't' test drawing inferences of mean differences. A correlation statistics was also worked out to find out the mean scores on mathematics and sciences (in both private and government settings).

The findings of the study were:

1. The pass percentage of government students was 45.8 as compared to the 87.5 per cent of the boys belonging to private institutions.
2. The pass percentage of government school girls was 44.8 and that of 81.8 in case of private school girls.
3. The highest marks percentage was 81 in case of private schools and only 76 in case of government schools.
4. The private institutions got 7 positions with an average of 80 per cent marks as compared to 1 position from government schools with an average of 78 per cent marks.
5. The number of first divisioners from private sector was more than government sector. It was 263 in private schools and only 48 in government schools.

6. The number of students who failed in Maths and Science was more in case of government schools than private schools.

On the whole, it was found that:

(1) The boys have done significantly better than girls (the level of significance = .01).

(2) Private schools boys have performed significantly better than government school boys (the level of significance = .01).

(3) Similarly, private school girls have done significantly better than government school girls.

The hypothesis that government schools are comparatively weaker than private schools in terms of Matriculation results of 1985 were approved as per the results of the study. But the null hypothesis that "there is no significant difference between boys and girls in their achievement in general" stood rejected as the data favoured boys in all situations, i.e., boys did better than girls and private schools students performed better than government school students.

Kingdon (1994) in her study found that in Uttar Pradesh, private unaided junior schools were significantly more cost-effective than either government or private aided junior schools. Surveying grade 8th students in 30 secondary schools in Lucknow in 1991, and controlling for student background characteristics and selection effects, it was found that students in private unaided junior schools performed significantly better on tests of reading and mathematics than students in government and private aided schools.

Studies Related to Achievement and SES

Ganguly (1989) conducted a study to establish the relationship between socio-economic status (SES) and scholastic achievement in a particular setting. The objectives of the study were:

(i) To investigate whether there is any appreciable difference in the scholastic achievement of upper, middle and lower socio-economic groups of students, and
(ii) To enquire whether different SES groups of students in urban areas differ in their achievement scores from those in rural areas.

The major findings of the study were as under:

(i) The mean achievement scores of the upper SES group of urban areas in all the three groups of subjects differed significantly from those of lower groups.
(ii) In rural areas also the upper socio-economic group differed significantly in its achievement scores from lower socio-economic status group in all the three groups of subjects.
(iii) The upper and lower socio-economic status groups of urban areas differed significantly in their mean score in these areas of achievement.

Heidt's (1996) study includes measures of family norms in multivariate model of academic achievement applied to a new nationally representative data-set, the National Educational Longitudinal Study of 1988. The study finds that when measures of family norms are omitted from the models, student socio-economic status, all strongly influence academic achievement but when measures of family norms are introduced, the private school control is markedly reduced in achievement for mathematics and proves spurious for reading, history and science.

Shukla (1984) studied the academic achievement in relation to their socio-economic status and family size among primary school children.

The main objectives were:

(i) To find out rural urban and sex differences in the academic achievement of primary school children.

(ii) To study the relationship between socio-economic status of the family and academic achievement of primary school children.

(iii) To study the relationship between size of the family and the academic achievement of primary school children.

The sample was drawn from 33 rural and urban schools. The target sample consisted of 3,000 children from rural schools and 1,000 from urban schools.

The mean, SD, t-test and coefficient of correlation was used for arriving at conclusions.

The findings of the study include:

(i) There is no significant sex difference in the academic achievement of primary school children.

(ii) There is no rural urban difference in academic achievement of primary school children.

(iii) Socio-economic status is positively and significantly co-related with academic achievement at the primary stage of education.

(iv) Higher SES category students show significantly better academic achievements in comparison to middle or low SES category students.

Qudah (1994) studied the relationship between the academic achievement of students in Jordan State Universities and the socio-economic status (SES) of their families. A survey composed of questions regarding demographics, SES background, cultural factors and accumulated grade point average (GPA) was administered by four Jordanian professors in four state universities in Jordan. Of 620 surveys made, there were 609 usable surveys which were analysed using statistical package, SPSS.

In this study, statistically significant negative relationship were found between students GPA and their fathers, and mothers' income, occupation and education. However, the relationship between parent's SES and student's GPA were weak and without practical significance.

Ramaswamy (1988) conducted a study aimed at analysing factors that are responsible for the scholastic performance of class X students. The study has set many objectives but one main objective that concerns us is to investigate the relationship between academic achievement and personality, achievement motivation, self-concept, study habits and socio-economic status in both high achievers and low achievers combined.

One major finding of the study was that academic achievement was found significantly and positively related to personality, achievement motivation, self-concept, study habits and socio-economic status in favour of both the sexes, Secondly, significant difference was found between high and low achievers with the above mentioned variable.

Besides, the studies conducted by Harter (1999), David, (1992), White (1992), Magdalena et al. (1997), and Singh (1996), which have already been discussed in preceding pages establish a positive relationship of academic achievement with SES.

Review of the Studies

A critical analysis of the above-mentioned studies raises certain substantive inquiries which need to be highlighted and addressed to for the sake of further investigation. Most of the studies whether conducted in India or abroad support multiple results leading to a phenomenon where the need of further research becomes imperative. In the area of school quality it has come to light that research studies found contrary and mixed results. The studies conducted by Bashir (1994), Das (1974), Kathryn (1996), Magdalena et al. (1995) came to the conclusion that school quality (school infrastructure, condition and facilities) largely enhance academic achievement. As against this, studies conducted by Varghese (1994), David (1992) and Behrman et al. (1997) hold that school quality is not related to academic achievement. Nearly, all the studies reported above except that of Padan (1988), and Qudah revealed that socio-economic status is the significant

determinant of academic achievement. Similarly, except Bashir (1994), Goldhabar (1996) and White (1992), all the investigators referred in the literature have found that in the school quality and academic achievement private schools are performing significantly better than government schools and government aided private schools. However, on institutional expenditure and cost-benefit analysis, an equal number of studies are in favour and against the private or public sector schools. Similar are the findings related to correlation of academic achievement with sex, and teacher-pupil ratio in the studies available so far.

The studies that examined the impact of expenditure on academic achievement also differ in their findings, like Harter (1999), James et al. (1996), and David (1992), found that there is a significant positive correlation between school expenditure and academic achievement, while as in contrast the studies conducted by Chubb and Moe (1990), Zahid (1996), Duraiswamy (1999) and Tilak (1995) show that academic achievement is negatively corelated with institutional expenditure.

The contradictory findings of various studies mentioned above inspired the investigator to conduct a study of comparative nature between private and public schools with respect to certain variables like quality, expenditure, SES and academic achievement, in the district Anantnag of J&K state. There is already a lack of research activity in the area of elementary education in the state. Although, a lot of research has been conducted outside the country on these variables, still all these variables in combination have not been studied extensively. In addition the investigator found that nearly all studies have confined the academic achievement to the scores obtained by the students in the subjects of maths and languages in India and abroad. The other subject of prime importance which lead to intellectual and social development of personality like general science and social science had not been taken into account.

Besides, most of the studies conducted so far are based on the survey reports.

The private sector has entered in the delivery of education in a big way resulting in the mushroom growth of private schools in every part of country. But, "the crucial issues about the involvement of private sector in school education, remains under studied in the contemporary educational research" (De et al., 2000).

Besides getting an overall view of research at elementary stage of education, the review of literature helped the investigator in understanding the important variables like school quality and expenditure and the possible ways they can be classified. They helped in understanding the relationship between achievement and other variables like school quality, school expenditure, SES, teacher-pupil ratio, etc.

The studies reviewed gave an indication that the concepts like school quality will be a very complex term to operationally define and measure. But at the same time they gave a clue that a comprehensive and measurable concept of school quality can be developed and also a measuring index.

The review of studies highlighted the need for such a study in the light of inconclusive and conflicting findings.

It has also come to the notice of the researcher that the work so far done in this area in India is inadequate and the area needs further exploration especially at elementary stage of education.

The review threw some light on method of data collection, research design, method of tool construction, standardisation and use of statistical tool for analysing data, which helped the researcher in developing an appropriate methodology for the present investigation which will be discussed in the next chapter.

4

Design of the Study

Research design is the plan, structure and strategy of investigation so as to obtain answers to the research questions and to control variance. Research designs are invented to enable the researcher to answer research questions as validly, objectively, accurately and as economically as possible. Design when carefully worked out, yield dependable and valid answers to the research questions epitomised by the hypothesis (Kerlinger, 1964). Adequately planned and executed designs help greatly in permitting us to rely on both our observation and our inferences.

Research designs set up the framework for 'adequate' tests of the relations among variables. Designs tell us, in a sense, what observation to make, how to make them and how to analyse them and how to analyse the quantitative representation of observations.

A design also tells us what type of statistical analysis to use, in the light of variables and statistical techniques available. Finally, an adequate design outline was made possible so that the conclusions be drawn from statistical analysis.

Since ages a parallel system of education is available in the private sector; how does it differ from public sector education,

has remained one of the most important question in our educational scenario unanswered. The present study is designed to answer this query.

Objectives

The following are the chief objectives of the study:

1. To compare the academic achievements of students of class V and VIII enrolled in private and public elementary schools.
2. To compare the academic achievements of students on gender basis.
3. To assess and compare the quality of education in public and private elementary schools.
4. To compare the per capita expenditure on the education of students in private and public schools at elementary stage.
5. To compare the socio-economic status (SES) of parents of V and VIII class students enrolled in both the types of schools.

Hypotheses

1. That, the achievement level of private school students is far better than public school students.
2. Private and public school students differ in academic achievements on gender basis.
3. Quality of education in private school is better than what is available in public school.
4. Cost-per capita in public schools looms large as compared to private school.
5. That school entries (admissions) to private and public school is conditioned by SES.

Definitions of Variables

For the conduct of present study, the investigator has defined the different terms as under:

Elementary School

An elementary school for the present study shall be one with classes for lower and upper primary groups (grade I to V grade and V grade to VIII grade). The target sample to be drawn from the classes V and VIII shall give us a clear picture on the variables under study.

Private School

Private school means any government recognised privately managed elementary school without any financial support and administrative control of local, state or central government.

Public School

Public school means any publicly managed elementary school fully controlled, financed, supported and administered by local, state or central government.

Academic Achievement

Academic achievement for the present study shall mean the total score obtained by the sample group on the 'Academic Achievement Test' constructed by the investigator for class V and VIII separately.

Funding

Funding in the present study shall mean the total amount spent on the establishment, contingency, curricular and co-curricular activities, infrastructure and libraries and laboratories by the school.

Quality

School is a service organisation and the service that school provides is the opportunity to learn. All services in the organisation both instructional and instructional support services are provided to enhance learning opportunity for the students. The

quality has been conceptualised in the following four dimensions in this study:

(a) Academic and non-academic manpower facilities (qualification of teachers, teacher-pupil ratio, management and supporting staff).
(b) Infrastructural facilities (school building, toilet facilities, playground, medical facilities and hot and cold arrangements).
(c) Curricular facilities (syllabus, audio-visual aids, methodology of teaching, assessment of achievement and communication of results).
(d) Co-curricular activities (debates, cultural programmes, music, songs and sports events like indoor and outdoor games).

Collection of Data

Locale of the Study

The district Anantnag of Jammu and Kashmir was selected as the area of study for collection of data. Anantnag is one of the biggest district of Jammu and Kashmir. It has been divided into 18 educational zones. The total number of educational institutions up to the elementary level is 1,299 including both private and public schools with an enrolment of 1,67,690 at this stage (Statistics and Planning Department, J&K Government, 2000). The investigator selected two elementary schools (one each from private and public sector) from each of the 18 zones for the purpose of investigations. However, due to non-availability of one government recognised private school, in the D.H. Pora educational zone only 17 educational zones were finally selected for data collection. Thus, 17 private schools and 17 public schools were selected for this study.

The criteria for the selection of schools was based upon two things:

(1) The uniformity of curriculum in four major subjects such as English, Science, Social Science and Maths, and
(2) The existence of a nearby government recognised private school to a public elementary school. All the public elementary schools are *ipso facto* recognised.

Sample

Sample of the Students

The working sample of students was drawn from grade V and grade VIII of the selected schools. The reason for selecting these two classes is that, these two classes are of a terminal nature in a way and expected to provide us with a clear picture on the variables under study. All students enrolled in class V and VIII of these 34 schools constituted the sample of students for the purpose of present study. The break-up is given in Tables 4.1 to 4.3.

Table 4.1 is the figurative representation of the sample group. Primarily, our sample was drawn from the class V and VIII of private and public school (both elementary section). A total sample of 1,158 students was drawn for research purpose. Incidentally, no more subjects were left out, therefore, no sampling strategy was adopted. Out of 1,158 students, the class-wise representation of the sample is 522 (45.1 per cent) and 636 (54.9 per cent) from class V and VIII respectively. As regards to the school, typewise distribution of sample, it is 596 (51.5 per cent) from private sector and 562 (48.5 per cent) from public sector.

A further break-up of sample shows that 290 students (25.1 per cent) of class V belong to private sector and remaining 232 (20 per cent) pertain to public sector. Similarly, a number of 306 students (26.4 per cent) of class VIII are from private sector and 330 students (28.5 per cent) belong to public sector.

Table 4.1
Cross Break of School Type and Class-wise Distribution of Student Sample

School Type	*Class V Students*	*Class VIII Students*	*Total*
Private Schools	290 (25.1)	306 (26.4)	596 (51.5)
Public Schools	232 (20)	330 (28.5)	562 (48.5)
Total	522 (45.1)	636 (54.9)	1158 (100)

Table 4.2
Cross Break of School Type and Gender-Based Distribution of Sample

School Type	*Boys*	*Girls*	*Total*
Private Schools	351 (30.3)	245 (21.1)	596 (51.4)
Public Schools	289 (25)	273 (23.6)	562 (48.6)
Total	640 (55.3)	518 (44.7)	1158 (100)

Table 4.3
Cross Break of School Type, Class and Sex Distribution of the Sample

School Type	*Sex*	*Class V (N)*	*Class VIII (N)*	*Total*
Private Schools	Boys	168 (32.2)	183 (28.8)	351 (30.3)
	Girls	122 (23.4)	123 (19.4)	245 (21.2)
Public Schools	Boys	140 (26.8)	149 (23.3)	289 (25)
	Girls	92 (17.6)	181 (28.5)	273 (23.5)
Total		522 (100)	636 (100)	1158 (100)

The figures in the body of the above tables and at the bottom and the right side are the frequencies. The figures in the parentheses are percentages across the rows.

Table 4.2 provides a profile of school type and sex distribution of the sample. A number of 596 (51.4 per cent) and 562 students (48.6 per cent) was taken from private and public schools respectively. The other way of looking at this table shows that 640 students (55.3 per cent) and 518 students (44.7 per cent) constitute males and females respectively in the sample. The additional information provided by the cells of cross break reflect that 351 male students (30.3 per cent) and 245 female students (21.1 per cent) belong to private schools while as 289 male students (25 per cent) and 273 (23.6 per cent) female students pertain to public managed schools out of the total sample of 1,158 students.

Table 4.3 is a composite cross break representing the sample in multifarious style giving further break-up of the sample. The 14 cells of cross break give pictures of classwise, schooltype and sexwise distribution of the sample.

The table shows that from private schools, a number of 168 boys (32.2 per cent) and 122 girls (23.4 per cent) were taken from class V and from the same class a number of 140 boys (26.8 per cent) and 92 girls (17.6 per cent) belonged to public schools. Similarly a number of 183 boys (28.8) and 123 girls (19.4 per cent) from private schools belonged to class VIII and from the same class a number of 149 boys (23.3 per cent) and 181 girls (28.5 per cent) were drawn from public schools.

Sample of Headmasters and Principals

All the 17 headmasters of the government managed public schools and the 17 principals of private managed elementary schools from which the sample of students was taken, constituted another sample.

Tools

According to the requirement of the study, the following tools were used by the investigator:

(i) Socio-Economic Status Scale (Rural) by A.G. Madhosh and K.P. Rafiqui.

(ii) Quality Assessment Questionnaire (QAQ) developed by the investigator.
(iii) Expenditure Schedule prepared by the Investigator
(iv) Academic Achievement Test (AAT) for class V constructed by the investigator.
(v) Academic Achievement Test (AAT) for class VIII students constructed by the investigator.

Socio-Economic Status Scale (Rural)

It is assumed that socio-economic status influences the quality of education, health and living of an individual in any social setting. So, its measurement has been a big demand of social science research. It is because of this need that a number of measuring devices were constructed in India. Most important tools are those of Kuppuswamy (1962), Pareek and Trivedi (1963), Rahudkar (1960), Kapoor (1979) and Verma (1962). But, the investigator used Socio-Economic Status Scale (Rural) (1993) by A.G. Madhosh and K.P. Rafique, which have been constructed as per the geographical, social, cultural, economic and occupational considerations of Kashmir Valley. Therefore, this tool was found suitable for the present study. The tool has two forms 'A' meant for urban population and form 'B' for rural population. The investigator has used form 'B' for this study because Anantnag is a rural district of Kashmir Valley.

Format

The scale is named as 'Socio-Economic Status Scale (Rural). There are three divisions in the scale. One division is devoted to the biodata and instruction for the respondents. The other division includes the content of the scale. The third division is the answer sheet meant for scoring.

Main content of the scale has been divided into eight major heads. They are as under:

(i) Occupation,
(ii) Income,

(iii) Size of family,
(iv) Education,
(v) Social position or participation,
(vi) Landed possession,
(vii) Household possession, and
(viii) Type of house.

The above major captions have been placed in 15-items of the scale. Each caption or area is presented by one or more items and each items has five sub-items or choices or alternatives as A, B, C, L and M. These options indicate a continuum on which an individual status of concerned item could be placed. The scale provides for categorisation of the subjects taking modal value as central point and the standard deviation as the integral unit. As a result, five broad categories of socio-economic status of respondents were made on the basis of scores obtained on the scale, which are as follows:

Symbol	*Category*	*Score on the Scale*
A	Upper Class	95.32
B	Upper Middle Class	75.11
C	Middle Class	54.90
D	Lower Middle Class	34.69
E	Lower Class	14.48

Reliability of the Scale

The reliability of this test was obtained in two ways, one by applying test-retest method and second by applying equivalent form on the same groups.

(i) Test-retest method: The same test was repeated on the same population (n=180) after a short interval (1½ months). A high coefficient of stability (r=0.82) indicated the amount of trust that can be placed on the test. For the urban scale (Form A) it came to r= 0.85.

(ii) Equivalent or parallel form reliability: An equivalent form of the scale was prepared and administered to the same samples (n=180), the data was correlated and high coefficient of correlation (0.97) obtained. For the urban scale the coefficient of 0.92 was obtained between the two forms.

Validity

(i) *Content validity*: Judges, experts, seasoned villagers and a set of social workers were interviewed for finding relevant items for this scale. The data thus collected was intensively checked for fairness and relevance. Here again expert opinion was sought to include various items into the scale. An inter-judge coefficient of correlation was sought to work out the consistency. A coefficient of (r=0.81) was high enough to accept the goodness of this measure.

(ii) *Concurrent validity*: An external measure, Trividie's socio-economic status scale was administered on the same sample (n=180) together with the present scale. The coefficient of correlation was high (r=0.61), but not as high as the face or content validity index mentioned earlier. This may be due to the fact that the scale constructed elsewhere do not exactly mirror the socio-economic status in J&K State. Even the correlation is fairly above average.

Scoring of the Scale

There is a very simple way of scoring the scale. The sub-items or alternatives under each item have been assigned a numerical weightage from 0 to 9. So, after responding the whole questionnaire either the subject himself put a tick (✓) in the relevant box of the answer sheet or the investigator reproduces his responses on the answer sheet. At the end scores against each item are to be added up together so that a general raw score for each subject can be calculated.

Quality Assessment Questionnaire (QAQ)

The American Society for Quality Control state that, "Quality is the totality of features and characteristics of a product or service that leaves on its ability to satisfy stated or implied needs". Downey, et al. (1994), has defined quality as, "meeting, exceeding and delighting customer's needs and expectations with recognition that those needs and desires will change over time". Again quality can be judged to exist when a good or service meets the specification that has been laid for it. Quality is not an end in itself, but a means by which the end product is judged to be up to the standard. As regards to quality in education, Linton Gray has put it in very useful discussion of the issue, "Human beings are notoriously non-standards and they are bring into educational situation in a range of experiences, emotions and opinions which cannot be kept in the background of the operations". Judging quality in education is very different from inspecting the output of a factory or judging the service provided by a retail outlet. The idea of learner as a product misses the complexities of learning process and uniqueness of each individual. For the purpose of analysing quality, it is more appropriate to view education as a service organisation than a productive process.

The indices of dimensions of school quality are varied, "physical infrastructure, the availability of books, the ratio of teachers to students, the cognitive skills of teachers, administrative organisation and the general learning environment may all influence school quality" (Behrman et al., 1997). The most common are curricula (what is to be taught), school spending, school inputs (physical and pedagogical), teacher quality, classroom pedagogy and organisation, school management and academic climate (Fuller and Clark, 1994; Levin and Lockheed, 1993; Lokheed and Verspoor, 1991).

Among researchers in India, Singh and Saxena (1995) divided school level inputs into teacher quality, school resources and school academic climate. Govinda and Varghese

(1993) looked at physical status of the school, school management, teachers and teacher learning process.

There is lack of standardised measuring device to assess the school quality at different stages. Since, quality implies different things to different people, it is not possible to develop a measuring device for its assessment acceptable to all. However, some important parameters of the quality dimensions at the school level have been identified upon which there seems a perfect agreement. Thus, the school quality was conceptualised in terms of the following major dimensions such as:

(a) Academic and non-academic manpower facilities.
(b) Infrastructure.
(c) Curricular facilities.
(d) Co-curricular facilities.

In the present study, a questionnaire with these paramount dimensions, has been developed for use. And by now, it has worked as a good tool of discrimination between private and publicly managed schools in terms of the quality component.

Format

The tool, Quality Assessment Questionnaire (QAQ) developed for the present research project has been divided into three parts for convenience. Part I is the identification part of the QAQ, which contains 11 items on acquisition of general information about the schools like school type, location, enrolment, medium of instruction and teacher-pupil ratio.

The Part II of the QAQ contains 45-items and Part III contains 17-items. These two parts form the main body of the questionnaire.

Main Areas of QAQ

(i) Academic and non-academic manpower facilities: The most important indices of school quality are the academic and non-academic manpower facilities opined by the judges and experts in the field. The QAQ contains the first

12 items in Part II and the first four items in Part III on this area of school activity.

(ii) Infrastructural facilities: Infrastructural facilities are considered the main requisite for determining the quality of any enterprise especially in school setting. There are 19 items in Part II from 13 to 31 and nine items in Part III from 5 to 13 that belong to this area of school quality in this QAQ.

(iii) Curricular activities: The quality of a school largely depends upon the curricular programme offered by a school, to its clientele, i.e., students. In the QAQ, six items from Part II and four items from Part III reflect the nature of curricular aspect of a school.

(iv) Co-curricular activities: Co-curricular activities are equally important for any educational institution while assessing its quality. Accordingly, eight items of Part III of the QAQ pertain to this area of school activity.

In all, the QAQ consist of 73 items on the above-mentioned areas of school activity.

Try out

The 73-item questionnaire was administered in 34 private and public schools. The respondents were the heads of these elementary schools. The respondents were asked to fill up the whole questionnaire as per given directions.

Scoring

The scoring of this questionnaire is very simple. Since, the QAQ consist of three parts, only the main body, i.e., Part II and Part III were to be scored on the basis of weightage given to each item. The Part II which contain 45-items of yes/no type indicate the possession of an attribute or characteristic and thus 'yes' amounts for one score. Similarly a 'no' stands for zero score. In the case of multiple choice 17 objective items, five alternative choices are provided to each item. Each choice or

alternative has been assigned its weightage on the model of Likert Scale (five point scale) i.e., 'a' has been assigned one score 'b' two, 'c' three and so on. On this pattern the questionnaire was scored. The difference in the weightage of options is based on the relative possession of an attribute within the choices given.

Categorisation

On the basis of the scores obtained from the subjects, broad categories of school quality can be presented for meaningful interpretation. The categories were done taking mean value as the internal units, resulting in five broad categories of school quality as excellent, above average, satisfactory, below average and poor. The mean 70.8 was taken as satisfactory score and the deviation of 3 SDs was taken to differentiate from mean both in positive and negative direction. The means of the group is 70.8 and SD is 3.8. The other way of presenting categories is as under:

Symbol	*Category*	*Score on Scale*
A	Excellent	93.66
B	Above average	82.23
C	Satisfactory	70.8
D	Below average	59.37
E	Poor	47.94

Reliability of the Test

A test-retest reliability of the QAQ was worked out. The same questionnaire was administered in the same schools after one month's time duration. The results then obtained were compared, both category and componentwise. It was found that the retest data perfectly matched with the initially obtained data. A high coefficient of correlation ($r = 0.90$) was obtained.

Validity

In this case (pre- and post-test) content validity was thought to be the best method of validation of QAQ. In the first place, an agreement on various dimensions, representative of the quality of school programme was achieved. This was done by large scale interaction with experts and others in the field. Then each dimensions was translated into a real accessible and assessable format. The next step was then clear to match the pre-test categories with the available data in each school, since the categories and the components of each category were clearly accessible, observable and researchable. It was not difficult to match the blueprint with the available information on those dimensions wherever applicable.

Academic Achievement Test for Class V and VIII

Some mechanism has always existed for assessing the worth of an individual in accordance with the needs of society. Even in ancient Greece in Sparta, tests were devised to measure the physical competence of youthful pupils (Schwartz et al., 1962). In 225 B.C., Chinese were selecting civil servants through examinations. The modern testing methods can, however, be traced to the beginning of the 20th century. In contemporary times, annual examinations continue to be the most widely used system of evaluation.

Generally speaking, achievement implies the net result of an individual's effort over a period of time. In the case of academic achievement, it is a combination of knowledge and skills which a child acquires on going through a process of formal instructions. Academic achievement is related to the objectives of syllabus content to be covered during a full term. The aim of teaching civics, for example, is to make better citizens (Deale, 1975).

Achievement tests generally measure the present proficiency, mastery and the understanding of general and specific areas of knowledge. Largely, they are measures of effectiveness

of instruction and learning. The achievement tests can be broadly classified into two categories:

(i) Standardised achievement tests.
(ii) Specially constructed achievement tests.

Standardised tests are published group of tests that are based on general educational content, common to a large number of educational systems, whereas specially constructed tests are teacher-made tests devised by teachers to measure limited and specific achievements. Such tests are also constructed by educational researchers for measuring limited areas of achievement or proficiency like the present academic achievement tests.

Purpose of Achievement Tests

Achievement tests serve a number of purposes. They are used to evaluate teachers effectiveness, the effectiveness of different teaching methods, maintaining the school standards and in making surveys of pupil's performance. These tests also provide information for classification and placement of individuals in relatively homogenous groups for the purpose of differentiated instruction. These tests enable teachers and counsellors diagnose each pupil's strength and weaknesses. Achievement tests, thus enable us to know the progress of pupils in a specific area of work or the whole performance in learning process of subjects for a particular period of time. In other words as put forth by Garrett (1959): "The purpose of educational achievement test – like that of ordinary school examination – is to discover how much a pupil knows about the subject he has studied or is studying."

Different types of tests can be put to use to serve the purpose like essay-type tests, objective-type tests or performance tests. But the investigator is more concerned with the objective-type tests. An objective-type test is a systematic procedure in which the individual tested is presented with a set of constructed stimuli to which he/she responds. These responses enable the tester to assign a numeral or a set of

numerals from which inferences can be made about testee's possession of whatever the test is supposed to measure. There are a number of objective tests which can be put forth in the following classification:

(i) Intelligence test.
(ii) Attitude test.
(iii) Personality measures.
(iv) Value scales.
(v) Achievement tests.

Since, we are only concerned with achievement tests, a brief description of achievement test is presented here especially the objective type test.

Objective-Type Tests

For many generations pupil's progress was measured through the utilisation of teacher made tests and often subjectively marked examination of its essay type. But the psychologists of nineteenth century made commendable strides in the development of techniques for measuring the results of sensory simulations. These efforts reached their peak in the establishment of laboratory for the experimental study of psychology in the University of Leipzing (1978) by Wilhelem Wundt. However, little was done until the end of nineteenth century in formulating or attempting to formulate the standardised and objective techniques of evaluating the outcomes of teaching. The contribution of J.M. Rice in the construction of objective-type tests proved a milestone: "...Although there was a much criticism on Rice's work among psychologists and schoolmen, he persisted in his studies of testing techniques in various school subjects. His point of view and his attempts at test construction became a starting point in the development of objective testing technique as an aid to improved teaching methods" (Crow and Crow, 1964).

Objective-type tests are composed of items or questions on learner's progress in:

(i) Subject matter mastery,

(ii) In the power to understand the significance of and to apply the material learned,
(iii) In the growth of attitude and social competence, and
(iv) Above all in learning objectives put forth earlier.

The items on the test are placed in various forms like true/false, multiple choice type, matching or association-type items.

As the investigator has selected only a limited portion of syllabus for test construction, there was no need to make use of any standardised test because the investigator enquired from State Board of School Education, State Institute of Education and Faculty of Education and University of Kashmir about the availability of standardised tests for class V and VIII on the selected portion of syllabus. But the standardised tests were not available from any of the quarters. Therefore, there was a need to construct achievement tests on English, Science, Social Science and Maths for class V and VIII.

There are many stages in the process of test development. To construct an achievement test the following steps are followed. These steps are presented in the form of a flow chart explained subsequently.

Planning of the AATs for Classes V and VIII

Academic Achievement Tests (AATs) for class V and VIII were generally designed to measure knowledge, comprehension and application/written expression in a specified subject or groups of subjects.

Content of the Tests

The present AATs for class V and VIII are based on the prescribed syllabus of the Jammu and Kashmir State Board of School Education for these classes. A limited course content of the subject of English, Science, Social Science and Maths was the main focus in the test construction, while as the subjects like Hindi, Urdu, Drawing, Music and Islamiat were left out on

the grounds of not being universally taught in private and public schools.

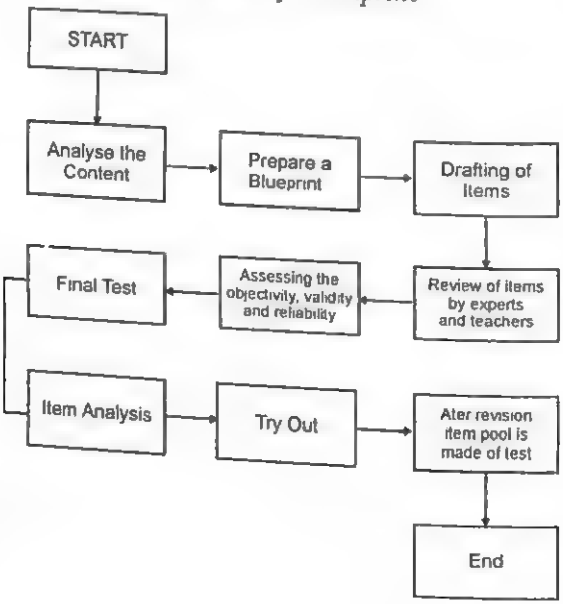
The AATs are based on nearly 60 per cent course content of four subjects already mentioned on the grounds that the test administration was scheduled at the end of penultimate session in order to ensure that all respondents are in a position to attempt it.

The detail of contents and its learning objectives for each subject was placed in the blueprint prepared separately for the two classes.

Objectives of the AATs

The purpose of testing is to determine the extent to which the pre-determined objectives are fulfilled. Thus, the first step in measuring achievement, is to establish a clear statement of objectives. Hence, the researcher was concerned with the educational objectives, both which are related to total process of education and those which are related to the subject. Each

Flow Chart of a Blueprint



item of the test was related to one or the other of the educational objectives. The test items were constructed keeping in view the weightage as regards to objectives for the levels of learning namely knowledge, comprehension and application. Tests on all the four subjects were based on the syllabus prescribed by State Board of School Education J&K and State Institute of Education, J&K, Srinagar.

The objective of the achievement test in English is to test the knowledge, comprehension and written expression of the respondents. Before the construction of question papers, an outline of the whole test paper in the form of a chart called 'blueprint' was prepared for both the classes separately. A well prepared blueprint (Singh, 1996) was consulted while framing the items. A separate 'blueprint' for each subject was prepared on the basis of nearly 60 per cent course content in major four subjects such as English, Science, Social Science and Maths for Class V and VIII. These blueprints helped the investigator to construct the achievement tests taking into consideration the major educational objectives like knowledge, comprehension and application. The items in the test were constructed in the light of these objectives.

From the item pool, initially 35 items for each subject and each class, i.e., V and VIII were drafted and discussed with subject teachers. These were also shown to two experts in psychometry. Based on their constructive criticism, improvement was made in the items. The language was also checked by one expert in the language. Similarly, the objectives of the subjects like Science, Social Science and Maths portion of the AATs was to test the knowledge, comprehension, and application of learning material. A separate blueprint for all subjects and for both the classes were prepared. And in the light of these blueprints, items were constructed for each subject and class, i.e., V and VIII.

However, for the public school respondents, the test material of the subjects like Science, Social Science and Maths

were translated into their medium of instruction, i.e., Urdu and got checked by one specialist in translation.

Form of Items/Questions

The AATs consist of multiple choice items only. Every item is in the form of a statement either affirmative or interrogative or a simple statement called the stem of the item. Every item is followed by four alternatives or choices. Among the four given choices, only one is correct and the rest three choices are distractors.

Number of Items

Initially, the AATs for class VIII and V contained 140 items in each case. Each subject's representation in the test was 35 items.

Weightage of Items

All the items on the test are assigned equal weightage, i.e., one mark for each correct response. In case of a wrong response 'zero' weightage is given. Negative marking procedure has not been adopted in the marking system.

Duration of the Test

The time allotted for attempting 140 items was 120 minutes.

Scoring of the Test Paper

The investigator scored the answer-booklets according to the scoring key prepared in advance for each question-booklet. Since all the items on the test are multiple choice items, the scoring process seemed quite easy and done comfortably and objectively.

Codification of Answer-booklets

All the answer-booklets were coded from 001 to 100 and onwards for avoiding any confusion.

Try out

The two question booklets containing 140 items one for class V and another for class VIII were administered on a cluster sample of 100 respondents from each class having been selected randomly from five private and public schools each for the purpose of item analysis.

Item Analysis

The objective of the item analysis is to obtain objective information concerning the items written for the test. "This information is valuable for several reasons. It provides an opportunity to check upon the test writer's subjective judgement in selecting the items to compose the test" (Guilford, 1987). The test maker gains new insights into the test construction and learns where and how items need to be rewritten. The most common use of item analysis is to enable the writer to modify the test in the direction he wants. It provides a method of eliminating certain items on the basis of Discrimination Index (DI) and Difficulty Value (DV) or Facility Index (FI). "It is a powerful tool for the improvement and accumulating a bank of high quality test items" (Ebel and Frisbie, 1991).

Item Analysis Procedure

For the present two AATs, item analysis procedure was taken from Ebel and Frisbie (1991). Item analysis begins after the test has been scored. The scored test papers were arranged from high achievers to low achievers. The top 27 per cent and the lowest 27 per cent scored papers were taken for item analysis from V and VIII grade separately, from the groups upon which test were administered. For each individual item the number of examinee's and their responses were counted separately for higher and lower groups, respectively. In order to estimate the index of item difficulty, the following formula was adopted as given by Singh (1996).

$$\text{Difficulty value (D1)} = \frac{H + L}{2N} \times 100$$

where,

H = No. of correct responses in high scoring groups.

L = No. of correct responses in low scoring groups.

N = No. of examinees in higher and lower groups.

Similarly, in the estimation of Index of Discrimination, the following formula was adopted.

$$(D1) = \frac{H - L}{2N} \times 100$$

where,

H = No. of correct responses in higher scoring groups.

L = No. of correct responses in low scoring groups.

N = No. of examinees in higher or lower groups.

Difficulty Value or Facility Index

Difficulty value is the index which describes the percentage of students who attempted a particular test item correctly. Higher the difficulty value or 'facility index', easier is the item considered. A test item to be valid from the difficulty point of view, should be in the range of 25 per cent to 75 per cent. An item possessing the difficulty value below 25 per cent or above 75 per cent normally gets rejected. An item possessing the difficulty value below 25 per cent or above 75 per cent normally gets rejected (Singh, 1996).

Discrimination Index

The quality of an item in distinguishing (discriminating) between good and poor students is technically called, 'discrimination'. The statistics showing discrimination value is called 'discrimination index'. The indices range from -1.0 to +1.0. If the criterion or the group changes, the discrimination indices for the same question may change (Natarajan, 1997).

The method of calculating discrimination index followed for the final selection of the test formats has been shown above

in the formula. "It is simpler to compute and to explain to others than other indices of discrimination as point bi-serial correlation, bi-serial correlation, Flangan's coefficient (Flangan, 1939) and Davis' coefficient (Davis, 1946). It has very useful property, which most of other correlation indices lack of being biased in favour of items of middle difficulty. As we have already seen, it is precisely these items that provide the largest amounts of information about differences in the levels of achievement and thus contribute most to score reliability" (Ebel and Frisbie, 1991).

The efforts were made to select only best items, i.e., the item having high discriminating value in the final test format. The items possessing discrimination index below 0.20 were out-rightly rejected.

Item Analysis Chart

The two dimensional charts were prepared in order to analyse each item. In these charts the number of questions were written horizontally and the names or the codes of examinees vertically. In this chart, it can be seen whether a student has done a particular test item correct or not. We put a mark one (1) for a correct answer, a cross (x) for wrong answer and a dash (-) for unattempted question in the relevant box. Then the correct responses are added both horizontally and vertically. This way it is ascertained as to how many examinees attempted the item on the test correctly. And secondly, the responses of each individual items are counted for further analysis. In this manner, we get two different totals of responses from higher group and lower group. Lastly, the formula of difficulty value and discrimination index is applied on the scores reflected by these item analysis charts.

For the present analysis, only 27 per cent respondents acquiring the high marks called higher group and 27 per cent low achievers called lower group were considered separately for two classes V and VIII. The rest of respondents called middle group is not considered, as they belong to average category. For

each subject two Item Analysis Charts were made for higher and lower groups.

Rejection of Item

Initially the test-booklet contained 35 items on each subject, i.e., English, Science, Social Science and Maths for both the cases of class V and class VIII, amounting to 140 test items in all for each class. After the item analysis was conducted upon these tests, it was found that some items owing to difficulty value, need to be eliminated. The problems were discussed with the supervisor and co-supervisor who unanimously gave the instruction to eliminate these items which do not come under the required limits of discrimination index and difficulty value. Thus, as a matter of coincidence, 40 items in both the AATs got eliminated after the item analysis was completed. Ultimately, the final test formats got reduced to 100 items for each class.

Test Formats

The question-booklets containing four tests of 25 item each on the subjects, English, Science, Social Science and Maths for class V and VIII were constructed. Their Urdu versions for the subjects of Science, Social Science and Maths were constructed.

Scoring Keys

The scoring keys of academic achievement tests were prepared for class V and VIII respectively for scoring purpose.

Reliability

Reliability refers to the consistency of scores obtained by the same person when re-examined with the same test on different occasions or with different sets of equivalent items or under other variable examining conditions (Anastasi, 1982). "A test is said to be reliable to the degree that it measures accurately and consistently, yielding comparable results when administered a number of times" (Best and Kahn, 1992).

Usually, contrary to a person's level of achievement, the physical quantities measured (like length, mass and time, etc.) are quite stable and accounts to all leading measurements of high reliability. The same may not be true with achievement tests because measuring devices or tools are not so precise and accurate. However, the best and most convenient method of computing reliability of a teacher-made test is the split half method, since repeated exposure to a test is not advisable and developing parallel forms is cumbersome. The researcher resorted to this method to compute reliability of achievement tests in all the four subjects meant for class V and class VIII.

In this method, odd numbered items and the even numbered items of the tests were treated as though they were two separate tests. Thus, two tests of raw scores were obtained for each student. One for the odd numbered items and the other for the even numbered items. A correlation coefficient was computed between each student from two sets of scores, i.e., even score and odd score. The reliability was estimated using SPSS package on computer. The estimated reliability of individual tests that constitute Academic Achievement Tests for class V and VIII is given below:

Test	*Reliability Coefficient*
English Class VIII	0.67
Science Class VIII	0.69
Social Science Class VIII	0.65
Maths Class VIII	0.80
English Class V	0.65
Science Class V	0.63
Social Science Class V	0.60
Maths Class V	0.72

Validity

The validity of a test concerns what the test measures and how well it does so (Anastasi, 1982). "Content validity is a matter of

determining whether the sample is representative of larger universe it is supposed to represent" (Gronlund, 1968). There are three types of validity: content, concurrent and construct validity. In an achievement test content validity is the most important criterion. Content validity shows how adequately the test samples represent the universe of knowledge, attitudes and skills a student is expected to master. Content validity is built into a test from the outset through the choice appropriate items (Anastasi, 1982). In general, a test is valid if it measures what it claims to measure. It is that quality of data gathering instruments that enables it to measure what it is supposed to measure (Best and Kahn, 1992). Besides, an achievement test has content validity if it represents faithfully the objectives set forth in the blueprint (Lindeman, 1969). Content validity of achievement tests in the subject of English, Science, Social Science and Maths was based on careful examination of course text books, syllabus, objectives and on the basis of judgement of three subject matter specialists.

To test the concurrent validity, the performance of one test is related to the performance of another which is a well reputed test or standardised test. As there did not exist any standardised test for that portion of syllabus which form the basis of present tests in English, Science, Social Science and Maths for the class V and VIII, the concurrent validity of the achievement tests was not calculated.

Thus, the validity was ascertained through item analysis and before that the tests were examined by the subject specialist and two psychometrecians.

Expenditure Schedule

The quality of education largely depends upon investment made in it. Research taking place all over the world reveals that school quality, academic achievement and economic development is correlated with the initial investment in education. Though some studies show that, "achievement is least correlated with high expenditure on education" (Hanushek, 1986).

Contrary to this a good number of studies reveal that "achievement is significantly and positively related with heavy expenditure" (Middleton, 1996). Besides, "research in Britain and elsewhere show that education is a profitable form of investment both for individual and for country as a whole" (Pluckrose, et al., 1980).

The basic education is expected to yield higher social rate of return and tends to benefit poor as compared to rich. "In a study of policy option for developing countries, The World Bank Staff recommended imposition of relative user charges at university (and the secondary) level and reallocation of government spending on education towards the level with highest social returns" (Bindsall, 1966)

However, in all cases heavy investment in education is fruitful for both individual and society especially at elementary stage of education. But in India, investment on education is very low. Besides, the expenditure incurred has great variance on its different components like manpower facilities, infrastructure, curricular and co-curricular activities. In order to find out such variance among private and public schools on these variables, an attempt has been made by the investigator to construct an 'expenditure schedule' in order to analyse school expenditure of selected schools.

The schedule has two parts. Part I is the identification part, having four items on it, asking name, type and location of the school. Part II contains 16 items pertaining to the variables under consideration.

Break-up of Items

(i) Manpower facilities: The first two items are designed to seek the information about the expenditure on manpower facilities (salary of teachers and supportive staff).

(ii) Infrastructure: Six items on the schedule from 3 to 8 gave us expenditure profile incurred on providing infrastructure facilities (school, building, playground, toilet facilities and hot and cold arrangements).

(iii) Curricular activities: Six items of the schedule help us to know the expenditure on curricular programme of the school (audio-visual aids, syllabus and methodology of teaching).

(iv) Co-curricular activities: The last two items help to provide the extent of school expenditure on co-curricular programme (sports events, cultural programme, music, songs and debates).

Reliability

Reliability can be defined as the degree of consistency between two measures of the same thing. This is neither a theoretical nor an operational definition but it is a more conceptual definition. Usually, physical quantities measured (like length, mass, time, etc.) are quite stable. Instruments can be chosen which will be precise and accurate all leading to measurement of high reliability. The same may not be true with other devices or instruments measuring subjective attributes. However, certain methods have been evolved to obtain reliability of various tests like test-retest method, spilt-half method and constructing equivalent forms of tests. For obtaining reliability of Expenditure Schedule used by the investigator, a test-retest method was applied. The same questionnaire was administered after one month's time duration. The results were compared category-wise and it was found that the retest figures mostly and perfectly matched with initially obtained data. A high coefficient of correlation (0.96) was obtained.

Validity

A test is said to be valid if it measures what it is stipulated to measure (in research what is stipulated is a variable specified in the statement of problem) Engelhart (1972). Unless the test scores measure what the test user intends to measure, no matter how reliable the scores, it will not be valid (Ebel and Frisbie, 1991). For the present 'Expenditure Schedule' the investigator relied upon the 'Face Validity' of the schedule. Face validity

pertains to immediate judgement of the validity of a test in terms of its content. A test is assured to be valid if it appears to be valid. For example, a test made up of addition, subtraction, multiplication and division exercises is assured to be valid measure of these aspects of computational ability in arithmetic with no more than quick look at exercises it contains. Such judgments of tests like the one just described may not be far from truth (Engelhart, 1972).

The schedule was given to five experts to see its suitability in terms of language, style and structure of questions. Only those items were retained where all the experts were having favourable responses and therefore, the schedule has both face and content validity.

Administration of Tools

Administration of SES Scale

In the first phase of data collection, the investigator administered SES scale in 17 private and 17 public elementary schools that were already selected for the present study. The SES scale contains 15 items pertaining to various aspects of life. The investigator visited all the schools one by one and administered the scale with the help of teachers and heads of schools in each school. Though the instructions are provided in the scale itself, the investigator explained all the items on the scale to students in English, Urdu and Kashmiri languages. Students were encouraged to fill up questionnaire themselves. However, in case of difficulty the investigator or their teachers helped them.

When all the questionnaires were filled up in a particular school, the investigator used to check up the biodata of each student in order to avoid any confusion. On the completion of the first phase of data collection in all the selected schools, the dually filled up questionnaires were then evaluated as per the scoring scheme devised by the authors of the scale. It took two months (April and May 1999) to complete the first phase of data collection including the scoring of the questionnaires.

Administration of Quality Assessment Questionnaire (QAQ)

In the second phase of data collection, QAQ was administered in all the 34 selected schools of 17 educational zones of district Anantnag. The respondents for the QAQ were the heads of the selected schools only. The QAQ consist of three parts out of which Part I is the identification part not to be included in the scoring process. This part is to seek the general information about the school. Part II and III form the main body of Questionnaire that are to be scored. Part II contains yes/no type of objective items. In all QAQ contain 73 items. The investigator explained all the items to the respondents. The heads of schools fully cooperated with the investigator and the process was completed in a period of nearly one-and-a-half month (June and July 1999).

When all the questionnaires where collected from the respondents, the scoring was done according to the scheme devised by the investigator for this questionnaire.

Administration of Academic Achievement Tests

In the third phase of data collection, the investigator administered two Academic Achievement Tests (AATs) in the selected schools simultaneously to the V the VIII grade students. In the conduct of achievement tests, the investigator, who happened to be the Programme Officer of NSS Cell of Government Degree College (Boys) Anantnag, sought the help of NSS volunteers who worked as invigilators in each school where the tests were scheduled to be conducted. Here, the teachers and heads of the prospective schools were not involved in any way in the conduct of the tests. The two separate Achievement tests containing 100 items each on the four major subjects of English, Science, Social Science and Maths were thus administered.

Prior to the conduct of the tests, the investigator used to inform the heads of the schools through a letter and a special messenger about the date and time of the test so that they keep students ready for the test on the scheduled date. Before one day of the fixed date of the test in each school, the investigator

used to go to the school were the test was to be conducted to make necessary seating arrangement up to their satisfaction for the smooth conduct of the test. The furniture and furnishings wherever available were provided by the heads of the schools. On each day of examination, half an hour before the commencement of the test, the investigator used to explain the procedure of the test and gave instruction to the respondents in English, Urdu and Kashmiri languages. The respondents were always kept in such a seating arrangement that after every class V student there was a class VIII student in the que. In this way, the chances of copying or making noise by the students while appearing in the test were minimised. In short, all the precautionary measures were taken by the investigator to conduct the test smoothly. All this was possible with the active invigilation of NSS volunteers. It took the investigator more than two months to conduct the AATs in 34 schools (September-October). At the end of the each day of examination, the investigator used to check the question booklet of each student, making it sure that he/she had written his name, roll no. and school name correctly on the space provided for it. After the administration of the test in all the schools on 1,158 respondents, the question booklets were marked as per the scoring key prepared by the investigator.

Administration of Expenditure Schedule

In the last phase of data collection, the Expenditure Schedule was administered in the selected private and public schools. The 'expenditure schedule' contains 16 items regarding the expenditure on various components of school activity. The respondents of this schedule were the heads of schools. The schedule seeks to get information about expenditure of financial year 1999-2000 with break-up on different components like expenditure on manpower facilities, infrastructure, curricular and co-curricular activities. The per capita school expenditure per annum a student was calculated on the basis of this schedule.

5

Statistical Analysis and Interpretations

Application of statistics in quantitative research has not become only meaningful but objectively speaking unavoidable as well. The very purpose of the application of statistics is to highlight the degree of relationship between variables and among the variables. It is also used to find out if there is any discrepancy between two or more variables in the light of statistical inferences drawn by a researcher.

Statistical Techniques Used

Keeping in view the nature of problem and the variables under study on the one hand, and the various statistical tools or techniques that help in establishing relationship or differences between and among variables, drawing conclusions and making predictions on the other, the investigator employed certain statistical tools, which were considered to be feasible like mean, SD, t-test, correlation and multiple regression (R) for statistical treatment to the data.

The investigator administered three questionnaires, viz., Quality Assessment Questionnaire (QAQ), Expenditure Schedule and Academic Achievement Test (AAT) for class V and VIII constructed by the investigator. Besides, a

Figure 5.1
Distribution of Sample as Per School Type (Private/Public)

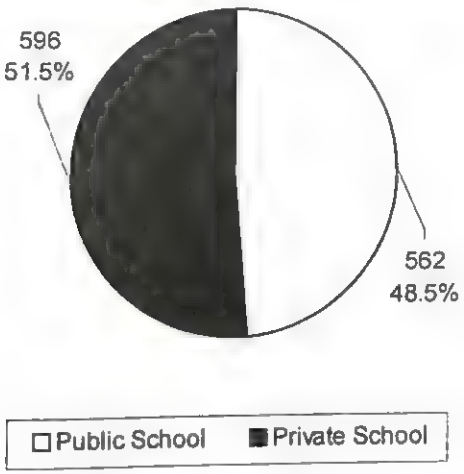


Figure 5.2
Distribution of Student Sample Group as Per Sex

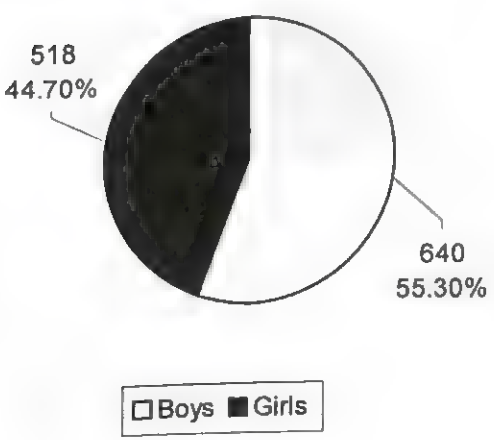


Figure 5.3
Classwise Distribution of Student Sample of Class V and VIII

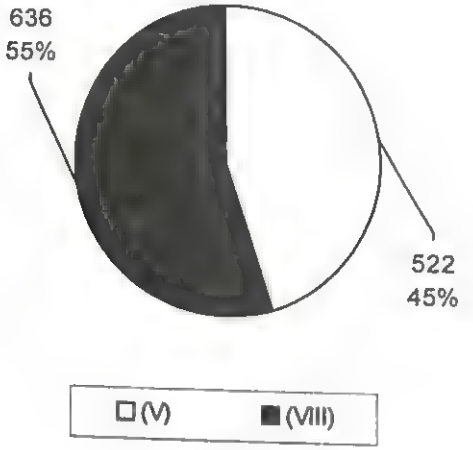


Figure 5.4
Sexwise and Classwise Distribution of Students in Class V

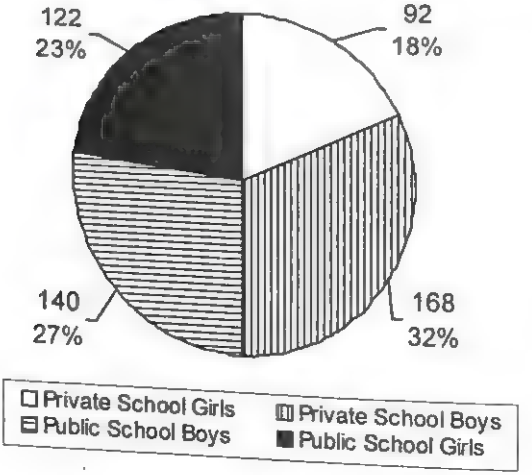
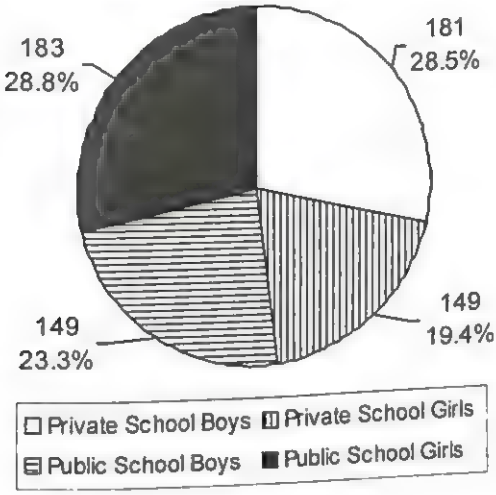


Figure 5.5
Sexwise and Classwise Distribution of Students in Class VIII



Socio-Economic Status Scale (Rural) (SES) by Dr. A.G. Madhosh and A.Q. Rafiqui was administered on a sample of 1,158 respondents (students) drawn from 17 private and 17 public schools. The AATs and SES was administered on all the 1,158 students taken from private and public schools. The schoolwise and classwise representation of the sample is given in the Figures 5.1 to 5.5.

The data, thus, collected was classified and tabulated in order to expose it to the statistical treatment as per the statistical design carved for the study.

In the first phase of data analysis, it was thought admissible to compare private and public schools on the variable 'academic achievement' so as to establish assumptions as had been presented in the preceding chapter. The comparisons pertaining to academic achievement were taken into consideration, the school type and gender separately in class V and VIII which resulted in different combination of analysis regarding academic achievement.

Before presenting the tables and their interpretation it seems appropriate to refer in brief about AATs for class V and VIII. The academic achievement in the present study meant the total score obtained on AATs by students which comprise of 100 items in all the case of both V and VIII classes. Every item has a weightage of one mark for correct answer and zero for wrong answer. The test had four parts containing 25 items in each part. These four parts contain the items on English, Science, Social Science and Maths. Since, the test contain 100 items, a total score obtained by students on the tests also meant the percentage of marks on the test containing the four subjects.

Comparisons on Academic Achievement

The academic achievement of private and public schools were compared in many respects taking into consideration, the school type, sex and class level of students. As a result, various comparisons emerged in the process of data analysis. For example class V students were compared in academic achievement on the basis of sex and school type. Similarly, the class VIII students were compared in academic achievements on the basis of sex and school type separately because the two different AATs were developed and administered in these classes.

Academic Achievement Performance of Private and Public School Students of Class V

Thus, in the first set of statistical analysis class V students in private and public schools were compared on academic achievement with the help of t-test. The figurative representation of statistical analysis is presented in Table 5.1.

As shown from the Table 5.1, the mean performance of private school students of class V on the AAT is 39.56. Since the number of items in the test is 100, so the average performance of the students is just 39.56 per cent, which

Table 5.1

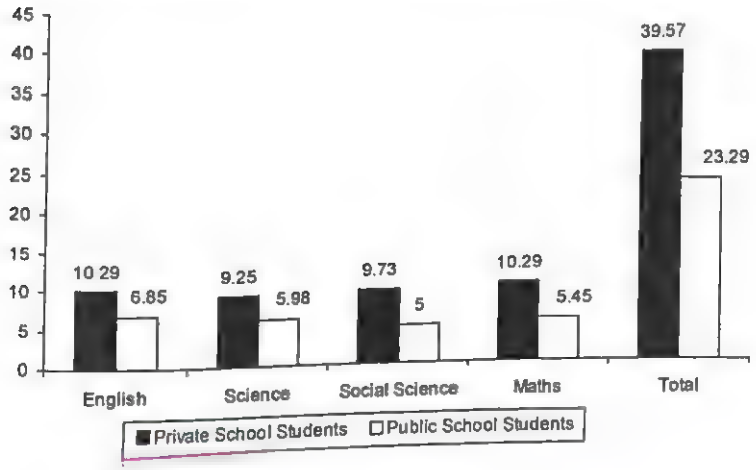
Mean, SD and t-ratio of Academic Achievement Test Scores Obtained by Private and Public School Students of Class V

	Private Schools (N=290)		*Public Schools (N=232)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-value*
English	10.29	3.91	6.85	3.72	10.19**
Science	9.25	4.68	5.98	3.07	9.17**
Social Science	9.73	3.72	5.00	3.32	15.14**
Maths	10.29	4.52	5.45	3.37	13.55**
Total	39.57	12.28	23.29	10.08	16.27**

** Significant at .01 level.

Figure 5.6

Mean Academic Achievement Obtained by Private and Public School Students of Class V



indicates that on an average, the group of students could not answer even the 50 per cent of the items correctly. When we look into the performance of students on different subjects,

namely, English, Science, Social Science and Maths through the four different sub-scales of the AATs which indicates that students of private schools could not answer correctly even 50 per cent of items on any of the four subjects because mean scores in all the subjects are less than 12.5. The same findings were found in case of the students of public schools. The fact is that their performance on the total test as well as in the four different subjects were less than that of their counterparts of private schools. However, the private school students had performed significantly well in all the subjects in comparison to public school students. This fact is supported by the obtained value of t-ratio given in the test columns of the table. All the five t-ratios are found to be statistically significant at .01 level.

Academic Achievement Performance of Private and Public School Students of Class VIII

A similar kind of analysis was carried out with regard to class VIII students and presented in Table 5.2. The class VIII students were compared on academic achievement in English, Science, Social Science and Maths in the private and public schools. The Table 5.2 shows that the mean achievement of private school students of class VIII on the AATs, comprising items on four subjects, is 40.70. This indicates that private school students could not answer even the 50 per cent of the items correctly. The highest marks obtained by students was in English where students achieved 11.48 on the average. Even this score was below the 50 per cent marks. When we look at the average achievement level of public school students, here again it was found that they too scored below 50 per cent on the AATs. They could not secure more than 29.44 per cent on the average on the AATs. However, Table 5.2 reflects that at class VIII level, private school students performed comparatively better in the achievement than public school students in English, Science, Social Science and Maths. The difference

Table 5.2

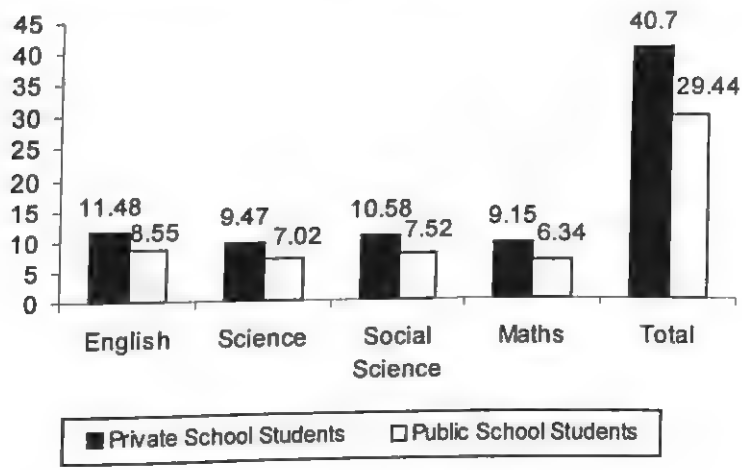
Mean, SD and t-ratio of Academic Achievement Test Scores Obtained by Private and Public School Students of Class VIII

	Private Schools (N=306)		*Public Schools (N=330)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-values*
English	11.48	7.74	8.55	3.93	5.81**
Science	9.47	3.98	7.02	4.36	7.38**
Social Science	10.58	5.32	7.52	3.60	8.56**
Maths	9.15	4.95	6.34	3.13	8.60**
Total	40.70	13.09	29.44	9.93	12.26**

** Significant at .01 level.

Figure 5.7

Mean Academic Achievement Obtained by Private and Public School Students of Class VIII



between two groups of students in achievement is significant (the level of significance = .01 in all the subjects). Private schools students scored higher not only in individual subjects, but their

overall achievement have remained higher than public school students by at least 11 per cent marks on average.

Table 5.1 and 5.2, thus, clearly establish that the achievement level of students is low in both private and public schools. Students could not succeed in scoring even 50 per cent marks on the AATs. But, the fact that private school students performed better than their counterparts in public schools both in class V and VIII was established. This finding is also supported by the obtained t-ratios shown in these two tables.

Gender-based Comparisons

The private and public school students of class V and VIII were compared in academic achievement on gender basis. In this analysis, boys were compared with boys and girls were compared with girls in class V as well as in class VIII.

Academic Achievement Performance of Boys of Class V in Private and Public Schools

The class V students were compared on gender basis which lead to various combinations of comparisons and gave rise to four statistical tables. In first such comparison, the male students from private and public schools were compared on academic achievement. The scores obtained by male students are presented in Table 5.3.

The Table 5.3 gives us a figurative representation of achievement scores of boys belonging to private and public schools. From this table it is understood that the private school boys in class V obtained a total of 40.50 per cent marks on the average in AATs. The correct answers in individual subjects like English, Science, Social Science and Maths were also found not more than 10 to 10.61 on an average out of 25 items in each case. This means that boys of private schools could not answer correctly 50 per cent of the items on AATs. A similar kind of

Table 5.3

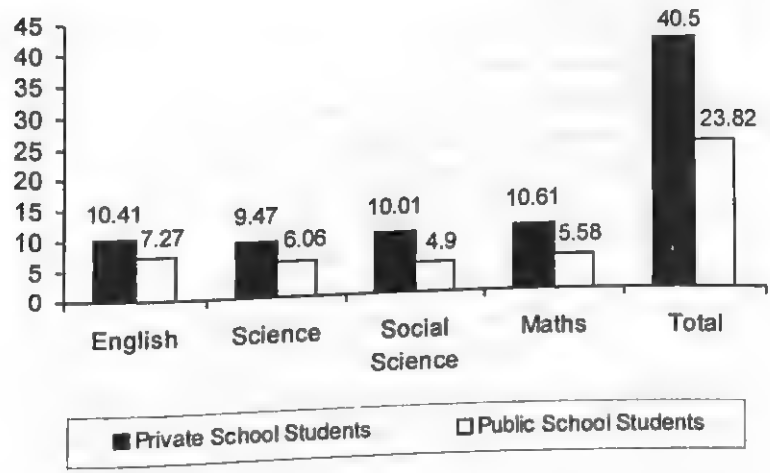
Mean, SD and t-ratio of Academic Achievement Test Scores Obtained by Private and Public School Boys of Class V

	Private Schools (N=168)		*Public Schools (N=140)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-values*
English	10.41	3.71	7.27	3.63	7.76**
Science	9.47	5.43	6.06	2.21	6.52**
Social Science	10.01	3.51	4.90	3.20	13.22**
Maths	10.61	4.59	5.58	3.32	10.80**
Total	40.50	12.42	23.82	9.53	13.01**

** Significant at .01 level.

Figure 5.8

Mean Academic Achievement Obtained by Boys of Private and Public Schools of Class V



performance was shown by the public school boys who had scored only 23.82 per cent marks in all the four subjects. Their performance in Social Science was found very poor, as on an

average they could obtain only 4.90 marks out of 25. But a clear understanding of the table also showed that private school boys and public school boys differed significantly with one another on achievement scores on mean basis in English, Science, Social Science and Maths. The t-values against each subject shows that they differ, significantly with each other (the level of significance=.01). The private school boys significantly performed better and scored higher in academic achievement in individual subjects as well as on the overall achievement than public school boys. They scored 16 per cent marks more than their counterparts on the overall achievement in all subjects.

Academic Achievement Performance of Boys of Class VIII in Private and Public Schools

The VIII class male students of private and public schools were compared on academic achievement in English, Science, Social Science and Maths. The scores obtained by students are presented in Table 5.4. As shown by the table, the performance of boys from private and public schools on AATs had remained very poor because, they could not score even 50 per cent items on the test correctly. The boys from private schools obtained 40.94 on an average and the public schools boys obtained 27.85 on the average in all the four subjects. The highest score obtained by private school boys is in Social Science where they obtained 10.74 marks on the average. In case of private school boys, the highest individual score was found as 8.77 in English. The table further showed that on mean basis the private school boys scored higher than public school boys. They also differed significantly with each other as per the t-values against each subject is concerned. The private school boys outsmarted their counterparts in all the subjects and on the overall achievement. They scored 13 per cent marks more than public school boys. The public school boys were found lagging behind private schools boys in all subjects and had performed poorly in their comparison.

Table 5.4

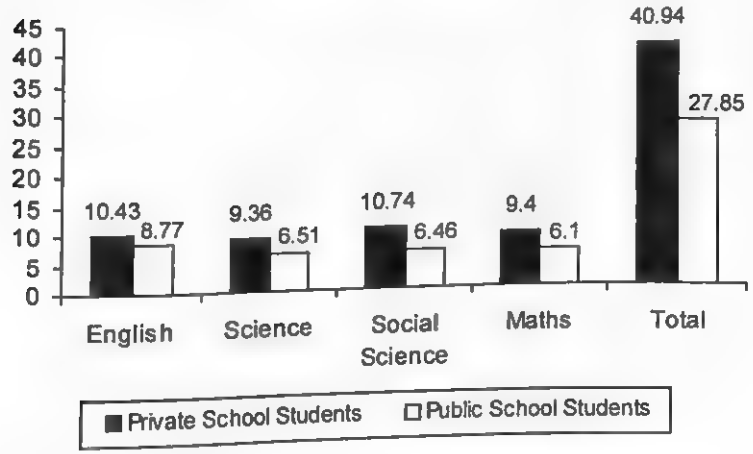
Mean, SD and t-ratio for Academic Achievement Test Scores Obtained by Private and Public School Boys of Class VIII

	Private Schools (N=183)		*Public Schools (N=149)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-values*
English	10.43	4.79	8.77	4.12	5.35**
Science	9.36	3.60	6.51	3.51	7.55**
Social Science	10.74	4.00	6.46	2.82	11.00**
Maths	9.40	4.48	6.10	2.70	6.71**
Total	40.94	12.89	27.85	8.74	10.57**

** Significant at .01 level.

Figure 5.9

Mean Academic Achievement Obtained by Boys of Private and Public Schools of Class VIII



Performance of Academic Achievement Between Girls of Private and Public Schools in Class V

In another set of analysis based on sex, girls were compared on academic achievement in private and public schools. A separate

analysis of academic achievement on English, Science, Social Science and Maths was made with regard to class V girl students between private and public schools and their mean achievement scores are presented in Table 5.5. As reflected by this table, the girls of class V in private schools obtained 38.30 marks on the average in all the four subjects and their highest score was in English where they obtained 10.13 marks on an average. A similar kind of performance was shown by the girls of public schools, who obtained 22.50 marks in all the four subjects on an average. They too scored higher in English (6.22) than other subjects. But both private and public school girls performed poorly on the Academic Achievement Test. However, the Table 5.5 showed that the two groups of girls differed significantly with each other, which is statistically significant at .01 level. Private school girls performed extraordinarily well in comparison to public schools girls in all individual subjects and on the overall or on the total achievement. In the overall achievement scores, they obtained 16 per cent marks higher than their counterparts in public sector schools.

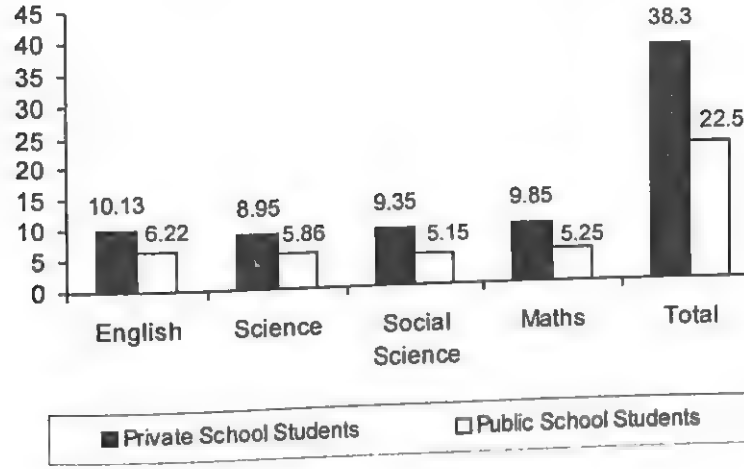
Table 5.5

Mean, SD and t-ratio of Academic Achievement Test Scores Obtained by Girls in Private and Public Schools of Class V

	Private Schools (N=122)		*Public Schools (N=92)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-values*
English	10.13	4.17	6.22	3.79	7.05**
Science	8.95	3.37	5.86	2.85	7.08**
Social Science	9.35	3.97	5.15	3.50	8.05**
Maths	9.85	4.41	5.25	3.44	8.27**
Total	38.30	12.03	22.50	10.88	9.90**

** Significant at .01 level.

Figure 5.10
Mean Academic Achievement Obtained by Girls of Private and Public Schools of Class V



Performance of Academic Achievement Between Girls of Private and Public Schools in Class VIII

As shown in the Table 5.6, the mean performance of class VIII girls of private schools is 40.34 on AATs comprising items on English, Science, Social Science and Maths. Their obtained score of 11.56 in English on average is highest among all four subjects. Similarly, Table 5.6 showed that public school girls obtained a score of 30.76 on Academic Achievement Test. In public schools, the girl students had secured 8.38 marks in social science which is highest among the four subjects. But, in both cases, the mean score of girl students is below 50 per cent. However, the table showed that private school girls of VIII class scored high in academic achievement as compared to their colleagues in public schools in all the subjects they were put to test. The two groups were found to differ significantly with each other (the level of significance = .01) as per the t-values on each subject is concerned. The public school girls were found

lagging behind by 9 per cent marks in the total achievement score on mean basis, than the private school girls. In all the subjects, private school girls established their superiority over the public school girls in academic achievement.

Table 5.6

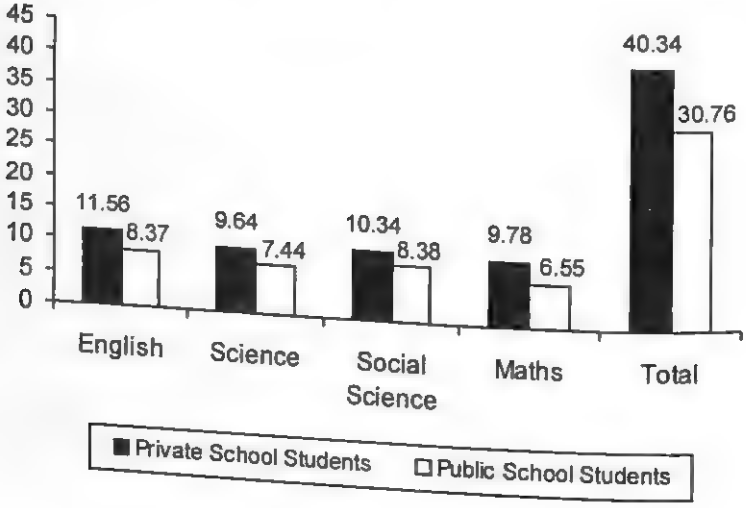
Mean, SD and t-ratio of Academic Achievement Test Scores Obtained by Girls in Private and Public Schools of Class VIII

	Private Schools (N=123)		*Public Schools (N=181)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-values*
English	11.56	4.67	8.37	3.77	6.57**
Science	9.64	4.50	7.44	5.09	3.86**
Social Science	10.34	6.85	8.38	3.93	3.16**
Maths	9.78	4.01	6.55	3.44	5.17**
Total	40.34	13.44	30.76	10.66	6.91**

** Significant at .01 level.

Figure 5.11

Mean Academic Achievement Obtained by Girls of Private and Public Schools of Class VIII



So, a clear understanding of the Tables 5.3 to 5.6, shows that boys when compared with boys in private and public schools and girls compared with girls in these two types of schools, there remains no doubt that private school boys and girls performed comparatively better than boys and girls studying in public schools.

Comparison of Different Groups in the Same Type of Schools on Academic Achievement

The comparisons on academic achievement were made within the school type also, i.e., within private schools and public schools separately on gender and class basis.

Performance of Academic Achievement Between Boys and Girls of Class V in Private Schools

In this set of analysis, firstly the boys and girls of class V in private schools were compared on academic achievement on their obtained mean scores in English, Science, Social Science and Maths. From the Table 5.7, it is understood that the private school boys and girls of class V performance was neck to neck in AATs. The boys obtained 39.50 per cent marks while girls obtained 38.30 marks in all on the AATs. Thus, the Table 5.7 clearly showed that boys and girls did not differ with each other

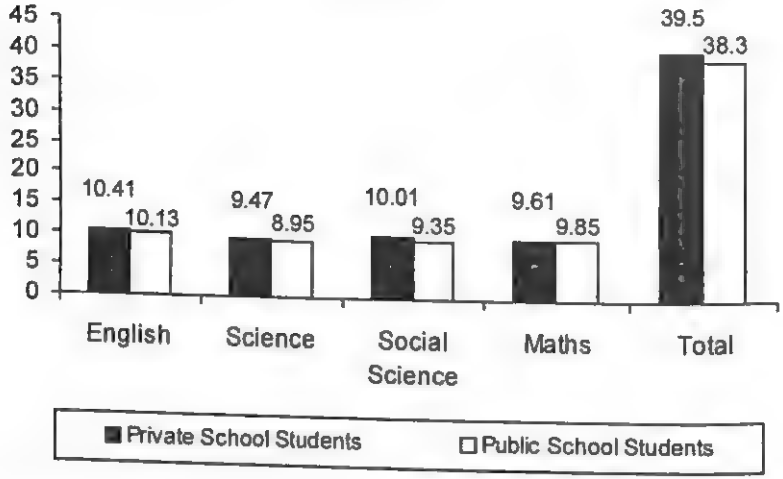
Table 5.7

Mean, SD and t-ratio of Academic Achievement Test Scores Obtained by Boys and Girls in Private Schools of Class V

	Private Schools (N= 168)		*Public Schools (N=122)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-values*
English	10.41	3.41	10.13	3.40	1.21 NS
Science	9.47	4.20	8.95	3.81	1.87 NS
Social Science	10.01	3.90	9.35	3.61	1.34 NS
Maths	9.61	2.95	9.85	3.37	0.98 NS
Total	39.50	9.45	38.30	10.55	2.40 NS

NS: Not significant.

Figure 5.12
Mean Academic Achievement Obtained by Boys and Girls Class V of Private School



in the achievement in any subject or in total achievement as per their t-value is concerned. This means that the achievement level of students do not differ on the basis of sex in private schools at class V level.

Performance of Academic Achievement between Boys and Girls of Class V in Public Schools

The boys and girls of V class in public schools were also compared on academic achievement in English, Science, Social Science and Maths. As per Table 5.8, the mean performance of boys of class V in public schools was 27.89 on the AATs. This indicates that these students could not attain even one-third marks in the test. They had performed poorly in all the subjects. However, in English their average score was 8.04 which is slightly more than other subjects. The same were the results in case of girls of class V in public schools. They too had not attained one-third marks in the test. Thus, it was found as

per Table 5.8 that boys and girls did not differ significantly with each other on academic achievement in any subject. This meant that in public schools, the class V students did not differ in achievement level on the gender basis as shown in the table.

Table 5.8

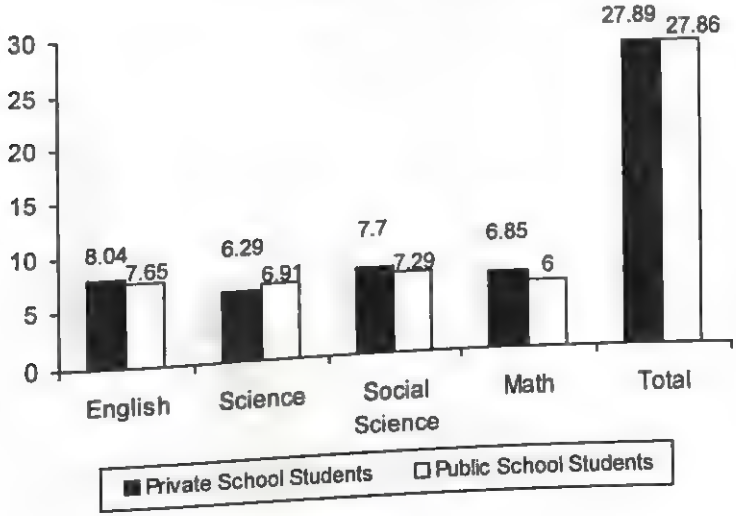
Mean, SD and t-ratio of Academic Achievements Test Scores Obtained by Boys and Girls in Public Schools of Class V

	Public School Boys (N=140)		*Public School Girls (N=92)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-values*
English	8.04	3.96	7.65	3.91	1.18 NS
Science	6.29	3.20	6.91	4.52	1.89 NS
Social Science	7.70	3.10	7.29	4.08	1.20 NS
Maths	6.85	3.02	6.00	3.49	0.95 NS
Total	27.89	9.34	27.86	10.40	1.37 NS

NS: Not significant.

Figure 5.13

Mean Academic Achievement Obtained by Boys and Girls of Class V of Public Schools



Performance of Academic Achievement Between Boys and Girls of Class VIII in Private Schools

A gender-based comparison on academic achievement was made in the private schools between class VIII students. Table 5.9 reflects that the mean performance of boys of

Table 5.9

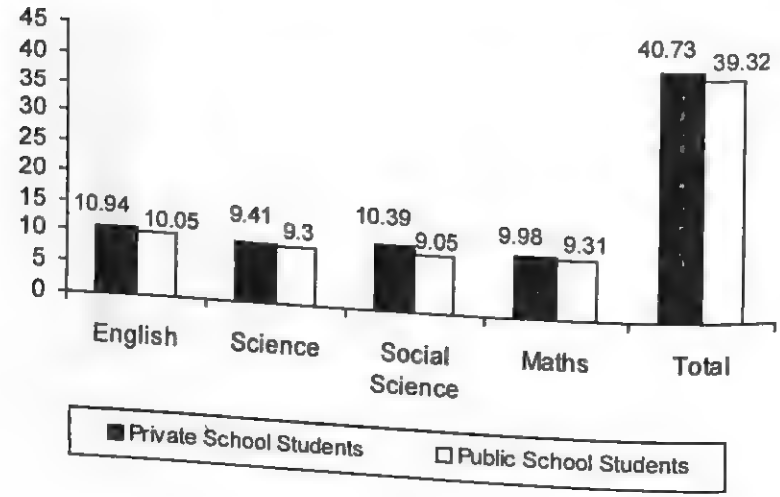
Mean, SD and t-ratio of Academic Achievement Test Scores Obtained by Boys and Girls in Private Schools of Class VIII

	Private School Boys (N=149)		*Private School Girls (N=181)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-values*
English	10.94	4.33	10.05	4.48	.23 NS
Science	9.41	4.56	9.30	3.98	.39 NS
Social Science	10.39	3.79	9.05	5.61	1.95 NS
Maths	9.98	5.10	9.31	4.24	1.77 NS
Total	40.73	12.65	39.32	12.77	2.34 NS

NS: Not significant.

Figure 5.14

Mean Achievement Obtained by Boys and Girls of Class VIII of Private Schools



class VIII on AATs is 40.33. This means that students' performance is below 50 per cent. In the individual subjects of English, Science, Social Science and Maths, the performance of students is also found to be less than 50 per cent. The table further shows that the average highest marks obtained by students are in English. A similar kind of performance is shown by girls of the private schools in class VIII, who have attained a total of 39.32 percentage of marks on AATs.

The t-values in the Table 5.9 clearly show that the achievement level of both boys and girls of class VIII from private schools do not differ significantly in English, Science, Social Science and Maths. On overall achievement too, the difference in achievement is not significant.

Performance of Academic Achievement Between Boys and Girls of Class VIII in Public Schools

In public schools too, the performance of boys and girls of class VIII was compared in English, Science, Social Science and Maths. The Table 5.10 is the figurative presentation of academic achievement scores of students. As shown by this table, the boys of class VIII from public schools obtained 28.85 per cent marks in all the subjects on the AATs. When we looked into the performance of students on different subjects, namely, English, Science, Social Science and Maths through the four sub-scales of the test, we found that the boys of public schools could not answer even one-third of the items correctly. The same is the case with girls of class VIII in public schools who had obtained 29.76 per cent marks on an average. The table also showed that boys and girls in public schools did not differ significantly with each other on individual subjects or on the overall achievement as per their t-values in the table are concerned. The performance level of both sexes had remained more or less the same in the class VIII of public schools.

In brief, it is concluded as per the details given in the Tables 5.7 to 5.10 about mean, SD and t-values, the difference in the academic achievement between boys and girls either within

the school type (private or public) or the class they read in (V or VIII), was not significant when compared with each other separately.

Table 5.10

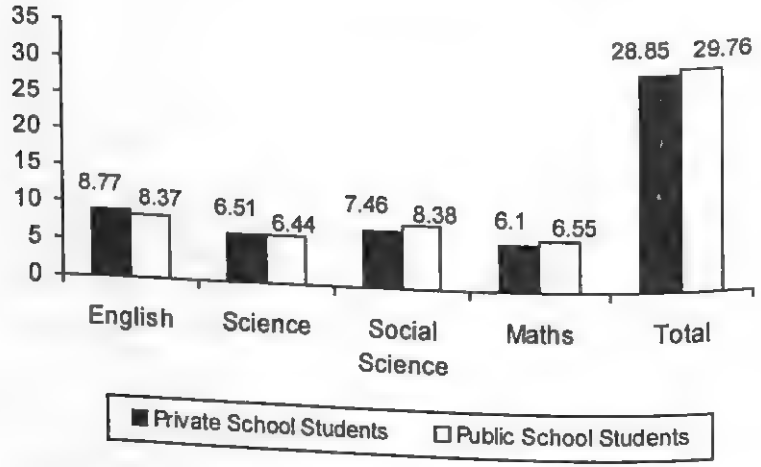
Mean, SD and t-ratio of Academic Achievement Test Scores Obtained by Boys and Girls in Public Schools of Class V

	Public School Boys (N=183)		*Public School Girls (N=123)*		
Subject	*Mean*	*SD*	*Mean*	*SD*	*t-values*
English	8.77	4.33	8.37	4.48	.23 NS
Science	6.51	4.56	6.44	4.24	.31 NS
Social Science	7.46	3.79	8.38	3.81	1.41 NS
Maths	6.10	3.90	6.55	4.41	1.70 NS
Total	28.85	12.65	29.76	11.77	1.33 NS

NS: Not significant.

Figure 5.15

Mean Achievement Obtained by Boys and Girls of Class VIII of Public Schools



Comparison of School Quality

A quality assessment of private and public schools was carried out using a 'Quality Assessment Questionnaire' developed by the investigator. These schools were compared with each other on the scores obtained on this questionnaire. The respondents of the questionnaire were the heads of schools.

Comparison of School Quality Between Private and Public Schools

A comparison between private and public schools on school quality was carried out so as to establish the assumption as had been presented in the hypothesis, which states "that the quality of education in private schools is better than what is available in public schools". The t-values were computed between the mean on four quality components namely academic and non-academic manpower facilities, infrastructural facilities, curricular facilities and co-curricular facilities. The private and public schools were compared on all the four components of quality and the scores obtained on an average by these schools are given below in the Table 5.11:

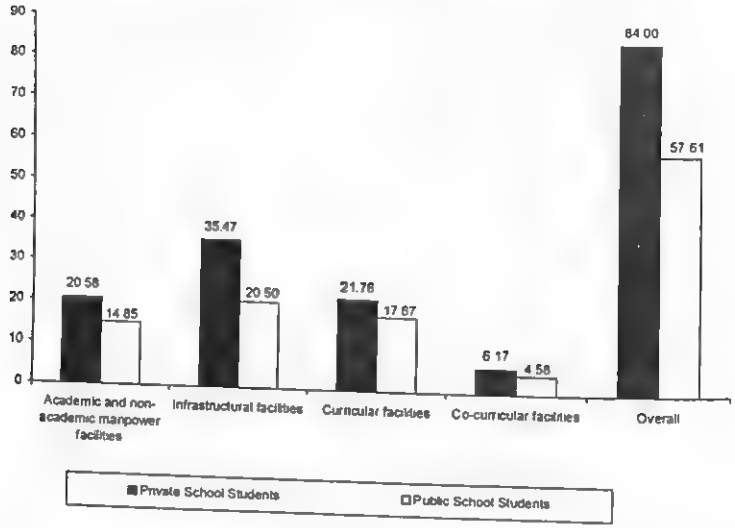
Table 5.11

Mean, SD and t-ratio of School Quality Scores Obtained by Private and Public School

Quality Components	*Private Schools (N=17)*		*Public Schools (N=17)*		
	Mean	*SD*	*Mean*	*SD*	*t-values*
Academic and non-academic manpower facilities	20.58	4.25	14.85	3.79	5.85 **
Infrastructural facilities	35.47	6.42	20.50	5.93	9.99 **
Curricular facilities	21.76	2.86	17.67	3.23	5.43 **
Co-curricular facilities	6.17	2.11	4.58	1.65	3.45 **
Overall	84.00	12.51	57.61	9.13	9.93 **

** Significant at .01 level.

Figure 5.16
Mean Quality Scores of Private and Public Schools



Comparison on Academic and Non-Academic Manpower Facilities

From Table 5.11 it is understood that the mean score of private schools on the quality components of academic and non-academic manpower facilities was 20.58 and on the same component of quality public schools had scored 14.85 points on an average. The difference between these two types of schools on this component of school quality was found significant on the basis of t-value, which is significant at .01 level. This means that private schools possessed superior school quality with reference to this component of school quality in comparison to public schools which lack manpower facilities both in teaching and the supportive services.

Comparison on Infrastructural Facilities

The second row of Table 5.11 presents comparative scores on infrastructural facilities in private and public schools. The private schools score on an average on this quality component

was 35.47 while in public sector it was only 20.50. The difference in the mean score between private and public school is significant as per the t-value is concerned (t=9.99, significance level is .01). This implies that private schools possessed more infrastructural facilities in shape of buildings, playground, furniture and other such facilities in comparison to public schools where there was scarcity of all these facilities when compared with each other.

Comparison on Curricular Facilities

From the third row of the Table 5.11 a comparison between private and public schools on the provision of curricular facilities is reflected. The scores obtained by private schools on this quality component on an average was found to be 21.76 and that of public schools, it was 17.67. Here again, the private school score was fairly more. The t-ratio between the two schools on this quality component showed a significant difference (the level of significance=0.1). This means that private schools had a richer curricular programme and facilities than public schools.

Comparison on Co-curricular Facilities

The row four of Table 5.11 gives us figures about the comparative status of private and public schools on the co-curricular facilities, the fourth component of the school quality. On an average, the private school score on this component was 6.17 and the public school score was 4.58. The difference in the mean scores between these two types of schools is significant as per their t-ratio is concerned (the level of significance=.01). This means that comparatively private schools did provide more co-curricular facilities to their students. These facilities may be in the shape of indoor and outdoor games, sports activities and cultural programmes. The public schools were found to lag behind in provision of such facilities when compared with private schools.

Comparison on Over All School Quality

As shown in the last row of the Table 5.11, the mean score obtained by the private schools on Quality Assessment Questionnaire (QAQ) was 84 points and in public school the average score was 57 points. On the basis of these mean scores, the private schools were found to fall in the category of 'Above Average' school quality, and the public school were found to possess 'Poor Quality', as per the categorisation scheme devised for the QAQ.

Besides, the private and public schools were found to differ significantly with each other on the overall school quality as t-ratio between these two types of school was found significant at .01 level. Thus, the private school superiority was established over public schools in all the individual components of school quality as well as in the over all quality as per the figures shown in Table 5.11.

Comparison on School Expenditure

The institutional expenditures in private and public schools on different school activities were calculated using an 'Expenditure Schedule'. This schedule contains items asking for the school expenditure in four major areas of school activity like academic and non-academic manpower facilities, infrastructural facilities, curricular and co-curricular facilities. Thus, a clear picture of institutional expenditure was sought in private and public schools.

Comparison of School Expenditure between Private and Public Schools

The private and public schools were compared on the institutional expenditure on the above mentioned areas of school activities. Tables 5.12 and 5.13 give out the figurative presentation of the expenditure in these schools.

Table 5.12

Mean and Percentages of School Expenditure in Private and Public Schools

	Private Schools (N=17)		*Public Schools (N=17)*	
Expenditure Components	*M**	*M%*	*M**	*M%*
Academic and non-academic manpower facilities	2.39	77.69	7.39	91.71**
Infrastructural facilities	0.44	10.97	0.11	1.20**
Curricular facilities	0.25	8.95	0.03	0.51**
Co-curricular facilities	0.08	2.40	0.02	0.44**

** Significant at .01 level.
* Amount in column shown in lacs.

Table 5.13

Mean, SD and t-ratio of School Expenditure Obtained by Private and Public Schools

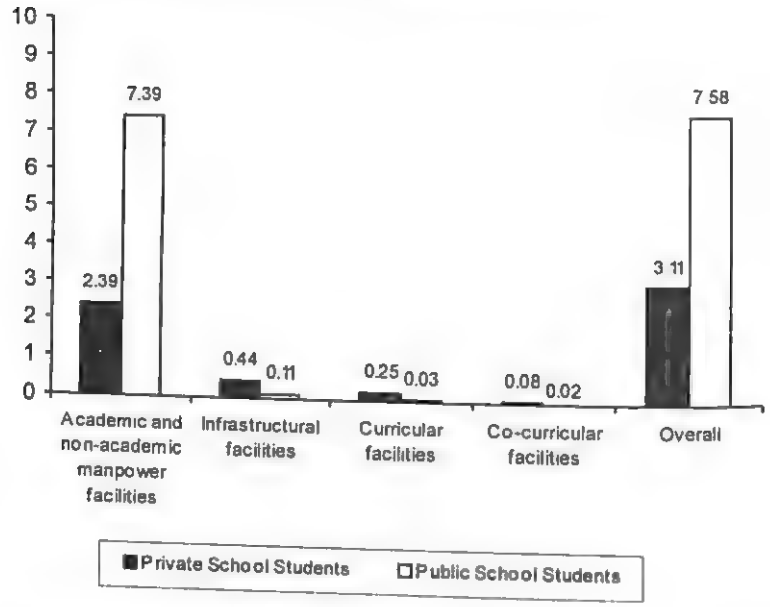
	Private Schools (N=17)		*Public Schools (N=17)*		
Expenditure Components	*M*	*SD*	*M*	*SD*	*t-values*
Academic and non-academic manpower facilities	2.39	1.11	7.39	2.56	10.42 **
Infrastructural facilities	0.44	0.37	0.11	0.14	4.65 **
Curricular facilities	0.25	0.41	0.03	0.01	3.11 **
Co-curricular facilities	0.08	0.18	0.02	0.03	1.92 **
Overall	3.11	1.38	7.58	2.72	8.54 **

** Significant at .01 level.

Comparison of Expenditure on Academic and Non-Academic Manpower Facilities

The average school expenditure of private schools on provision of academic and non-academic manpower facilities was Rs 2.39 lacs in private schools which formed 77.67 per cent of total school expenditure. This expenditure included the salaries of

Figure 5.17
Mean School Expenditure of Private and Public Schools (in lacs)



teachers, supportive staff and contingency grants. But in public sector schools, the calculated average expenditure per school was Rs 7.39 lacs forming 97.71 per cent of total institutional expenditure. This showed a significant difference between the two types of schools on expenditure in this area of school activity. The private schools thus incurred a meagre amount on the teacher salaries, and salaries on supportive staff, in comparison to public schools, where the amount spent on this component was very huge.

Comparison of Expenditure on Infrastructural Facilities

The average spending on infrastructure in private sector schools was calculated as Rs 0.44 lac (forming 10.97 per cent of total spending) while in public sector schools, the amount spent on infrastructure was calculated as Rs 0.11 lac (forming 1.31 per

cent of total expenditure). The difference in the expenditure between these two types of schools was found significant (the level of significance=.01). This indicates that private schools were spending more on infrastructure than public schools on the average.

Comparison of Expenditure on Curricular Facilities

The two types of schools differed significantly in the expenditure on curricular activities. The private schools on average had spend Rs 0.25 lac on the provision of curricular facilities which amounted 10.26 per cent of their total expenditure. In public schools expenditure on this component was calculated as Rs 0.03 lac on an average forming 0.51 per cent of total schools spending. This showed that a meagre amount was spent in public schools on curricular activities in comparison to private schools.

Comparison of Expenditure on Co-curricular Facilities

When we look at the comparative position of expenditure on co-curricular facilities in private and public schools, a vast variation on the average annual expenditure on the provision of co-curricular facilities between private and public schools is found. In private schools, the total spending on this component of expenditure was Rs 0.08 lac (2.4 per cent of total schools expenditure) and in public school this amount was only Rs 0.02 lac (0.29 per cent of total expenditure). The t-value between the expenditure on this component of expenditure showed that the private and public schools differed significantly with each other on this component of expenditure (the level of significance=.01).

Comparison of Total Expenditure in Private and Public Schools

As shown by Table 5.13, the private schools on an average were found to operate at an annual cost of Rs 3.11 lacs and public schools at an annual cost of Rs 7.58 lacs. The

difference in the institutional expenditure between these two types of schools was significant as per the calculated t-ratio, which is significant at .01 level. Thus, it is evident that public schools operate at higher cost in comparison with private schools.

The SDs as reflected in the Table 5.13 are more than the mean value. The possible reasons for this could be the skewed data.

Comparison of Per Capita School Expenditure

On the basis of 'Expenditure Schedule' the institutional expenditure per pupil in private and public schools was calculated which is presented below:

Comparison of Per Capita School Expenditure between Public and Private Schools

The per capita school expenditure was calculated between private and public schools. Table 5.14 gives us a clear profile of per capita expenditure between these two types of schools. The table also shows the difference between these two types of schools on per capita school expenditure.

Table 5.14

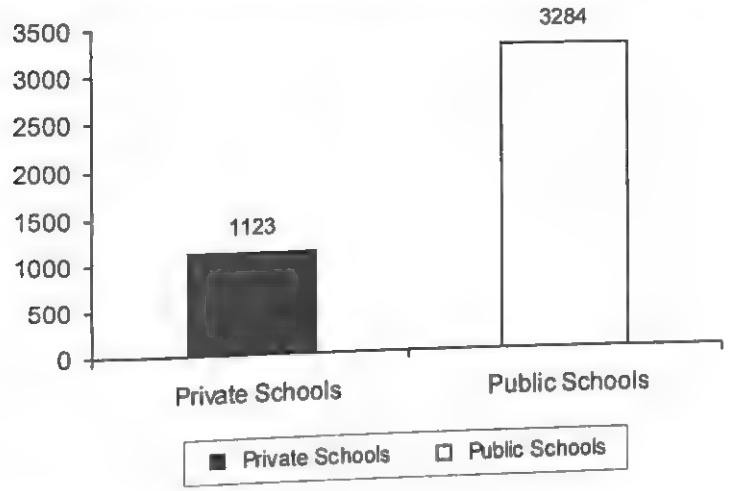
Mean, SD and t-ratio of Per Capita School Expenditure in Private and Public Schools

Types of Schools	*No.*	*Mean (in Rs.)*	*S D*	*t-values*
Private	17	1,123	620	
Public	17	3,284	1246	9.05 **

** Significant at .01 level.

As shown in the Table 5.14, the private schools average per capita expenditure per annum, is Rs 1,123 while it is Rs 3,284 in public sector schools. The two types of schools were found to differ significantly on the per capita institutional expenditure as per the t-ratio which was found significant at .01 level. This

Figure 5.18
Mean of Per Capita School Expenditure in Private and Public Schools



clearly implied that private schools were operating with a very low cost as per the institutional per capita expenditure is concerned in comparison to the public schools.

Comparison of Socio-Economic Status

The student sample was exposed to socio-economic status scale in order to know the clientele being served by two types of schools so as to test the hypothesis which states that "the school entries (admissions) to private and public sector schools is conditioned by socio-economic status".

Comparisons of Socio-Economic Status between Students of Private and Public Schools

As shown in Table 5.15, the mean score obtained by private schools students was calculated as 46.57 whereas in public schools, on an average this score was 35.74 on the Socio-Economic Status Scale administered on the sample. The difference in their mean scores and their t-value (12.35) showed

that the students from private and public schools differed significantly with each other on socio-economic status (the level of significance=.01). The difference has been recorded in favour of private school students who belonged to high socio-economic status sects of society as compared to their counterparts in public schools.

Table 5.15

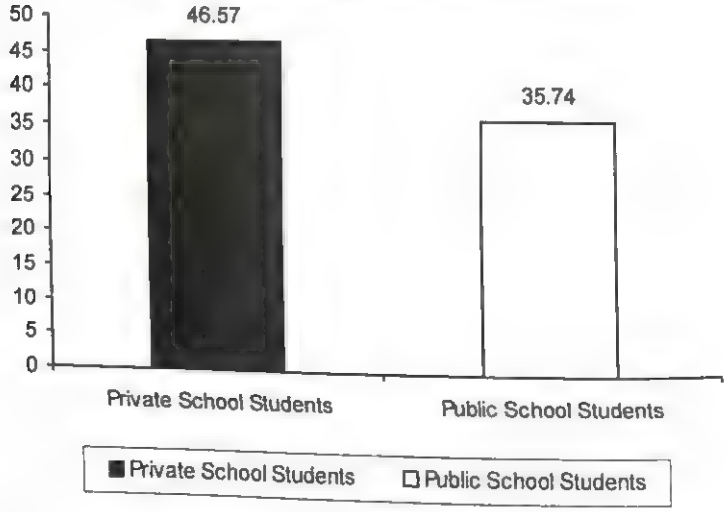
Mean, SD and t-ratio of Socio-Economic Status Scores Obtained by Private and Public School Children

Types of School	*N*	*Mean*	*SD*	*t-values*
Private	596	46.57	13.52**	12.35**
Public	562	35.74	16.25	

** Significant at .01 level.

Figure 5.19

Mean Socio-Economic Status Scores of Students in Private and Public Schools



However, on the basis of average obtained scores, the private school students were found to fall in category of 'middle class' as per the categorisation devised by the authors of the

Socio-Economic Status Scale. Similarly, the public school students were found to fall in the category of 'lower middle class' on the basis of scores obtained by these students. This implied that both private and public school clientele did not belong to upper or upper-middle class.

Comparison of Socio-Economic Status between Students on Gender Basis in Private Schools

The socio-economic status of students was compared on gender basis in private and public schools separately. In such analysis, firstly the boys and girls from private schools were compared. The mean, SD and t-values were calculated and on the basis of t-ratio it was found that private school boys and girls do not differ with each other on socio-economic status. Table 5.16 bears testimony to this observation. This implies that private school clientele do come from similar socio-economic status groups of society irrespective of the gender they belong to.

Table 5.16

Mean, SD and t-ratio of Socio-Economic Status Scores Obtained by Boys and Girls in Private Schools

Sex	*No.*	*Mean*	*SD*	*t-values*
Boys	351	45.79	13.17**	1.68 NS
Girls	246	47.68	13.96	

** Significant at .01 level.

NS: Not significant.

Comparison of Socio-Economic Status between Students on Gender Basis in Public Schools

The socio-economic status of students in public schools was also compared on gender basis. Table 5.17 shows that boys and girls from public schools differed significantly with each other (the level of significance=.01) and this difference was recorded in favour of girl students. The male students had obtained a score of 33.52 on an average, while the score of girls on

socio-economic status scale was found to be 38.09. This means that girls reading in public schools belonged to comparatively high socio-economic status groups while the boys of the same schools belong to slightly lower socio-economic status groups of society. The other way of looking at this table showed that public schools attracted more female population even from comparatively better socio-economic status families or parents. The parents seemed to send their girls to public schools and boys to the private schools.

Table 5.17

Mean, SD and t-ratio of Socio-Economic Status Scores Obtained by Boys and Girls of Public School Children

Sex	*N*	*Mean*	*SD*	*t-values*
Boys	289	33.52	16.34	
Girls	273	38.09	15.83	3.36**

** Significant at .01 level.

Comparison of Socio-Economic Status of Private and Public School Students of Class V on Gender Basis

A gender-based comparison on socio-economic status was made in class V. Table 5.18 which is a figurative representation of socio-economic status of boys and girls showed that class V students of private and public schools differed significantly with each other (the level of significance=.01). The socio-economic status of private school students was very high

Table 5.18

Mean, SD and t-ratio of Socio-Economic Status Scores Obtained by Class V Students in Private and Public Schools

Types of Schools	*N*	*Mean*	*SD*	*t-values*
Private	290	46.48	13.70	
Public	232	33.19	18.38	9.46 **

** Significant at .01 level.

as compared to public school students. The mean score on socio-economic status scale administered by the investigator obtained by private students is 46 against to 33 by public school students. This showed that private schools serve only the comparatively high socio-economic status groups of society.

Comparison of Socio-Economic Status on Gender Basis in Class VIII in Public and Private Schools

The students from Class VIII were also compared on socio-economic status. Table 5.19 shows that students belonging to private and public schools differed significantly with each other on socio-economic status. The mean scores in favour of private school students on the average was found 46.5. The public schools scored only 37.53 points. This implies that students with higher socio-economic status prefer to avail private education. In other words, private schools serve only those pupil who belong to comparatively higher Socio-economic status groups of society and the public schools serve only those students who have low socio-economic status profile.

Table 5.19

Mean, SD and t-ratio of Socio-Economic Status Scores Obtained by VIII Class Students in Private and Public Schools

Comparison	*N*	*Mean*	*SD*	*t-value*
Private	306	46.65	13.37	8.27 **
Public	330	37.53	14.32	

** Significant at .01 level.

Comparison of Teacher-Pupil Ratio

The information about the number of teachers available in private and public schools was obtained from the respective heads of schools in order to calculate the teacher-pupil ratio of these schools.

Comparison of Teacher-Pupil Ratio between Private and Public Schools

The number of teachers available in private and public schools was calculated and it was found that on the average for every 24 students there was one teacher available in private school while for every 28 students, one teacher was found available in public schools. The schools belonging to private and public sector were then put to comparison on teacher-pupil ratio. It was found as per Table 5.20 that two types of schools differed significantly with each other in this respect (the level of significance =.01) and this difference was in favour of private schools

Table 5.20

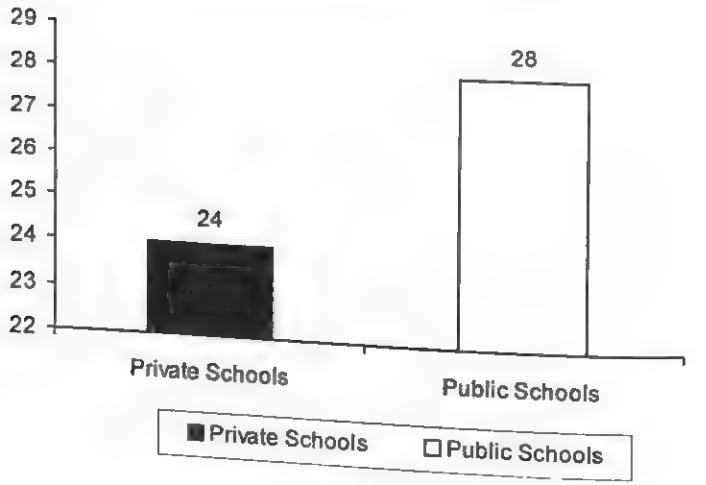
Mean, SD and t-value of Teacher-Pupil Ratio between Private and Public Schools

Types of Schools	*N*	*Mean*	*S D*	*t-value*
Private	17	24	7.50	2.35 **
Public	17	28	7.06	

**. Significant at .01 level.

Figure 5.20

Mean Teacher-Pupil Ratio in Private and Public Schools



where teacher-pupil ratio was calculated to be as low as 1:24 as against 1:28 in public schools. This implied that more teachers were available in private schools for delivery of learning than public schools.

Correlates and Determinants

Two types of variables were used in the correlation and regression analysis, that is, dependent variables and independent variables. Dependent variable is that variable which depends on other variables or it is made of independent variables. On the other hand, independent variable is having its own identity and it is not made of other variables. The following dependent and independent variables were used for the computation of correlation and regression analysis:

Dependent Variable	*Independent Variable*
V8 - Academic Achievement	V1 - School type (private and public)
	V2 - Class (V and VIII)
	V3 - Gender (male and female)
	V9 - Socio-economic status
	V10 - School quality (academic and non-academic manpower facilities
	V11 - School quality (infrastructural facilities)
	V12 - School quality (curricular facilities)
	V13 - School quality (co-curricular facilities)
	V23- School expenditure
	V24 - Per capita expenditure
	V25 - Teacher-pupil ratio

Correlates of Academic Achievement

The correlation coefficients between academic achievement and other independent variables were computed. The results so obtained are being interpreted below and the value of the coefficients of correlation are given in the Table 5.21.

Table 5.21

Correlation Coefficients between Academic Achievement and Independent Variables of Students in Composite Sample, Public Schools and Private Schools

Independent Variables	*Dependent Variable (Academic Achievement)*		
	Composite Sample	*Public Schools*	*Private Schools*
	N=1150	*N=562*	*N=596*
Class level	-0.09**	-0.29**	-0.04
Gender	-0.02	-0.09**	-0.05
Socio-economic status	0.35**	0.26**	0.20**
School quality	0.40**	0.002	0.03
School expenditure	-0.37**	-0.09**	0.10**
Per capita expenditure	-0.33**	0.02	0.09**
Teacher-pupil ratio	-0.13**	0.02	0.03

** Significant at .01 level.

Coefficient of Correlation between Academic Achievements and Independent Variables on Composite/Total Sample

Correlation between Class Level and Academic Achievement

The correlation between academic achievement and class level was found negatively significantly correlated. The coefficient of correlation between the two variables was -0.09 which is significant at .01 level. This means that the achievement level of class V students was very low as compared to the achievement level of class VIII students.

Correlation between Gender and Academic Achievement

When academic achievement was correlated with the sex variable on the composite sample of both private and public schools, the correlation between the two variables was found not significant. The coefficient of correlation between these two variables was estimated as .02. This means that no

difference in the level of academic achievement was recorded for boys and girl students in all subjects they were put to test.

Correlation between SES and Academic Achievement

The correlation between SES and academic achievement was significantly and positively correlated with each other. The coefficient of correlation between the two variables was. 0.35 which is significant at .01 level. This means that the academic achievement of those students is very high who belong to high SES category as compared to those who come from low SES groups.

Correlation between School Quality and Academic Achievement

The correlation between school quality and academic achievement was found significantly correlated. The coefficient of correlation between these two variables is. 0.40 which means that there is significant and positive correlation between these two variables. It implies that academic achievement level of students was very high where school quality was superior as compared to the achievement of those students in whose case the school quality was poor.

Correlation between Expenditure and Academic Achievement

The correlation coefficient between school expenditure and academic achievement was recorded -0.37 which means that these two variables were negatively significantly correlated. This means that those schools which operated comparatively on higher costs, the academic achievement of clientele of such schools was comparatively very low with those schools that operated at lower costs. Hence, an inverse correlation between these two variables was ascertained.

Correlation between Academic Achievement and Per Capita Expenditure

The correlation coefficient between these two variables was estimated as -0.23 which shows that per capita expenditure on

education is negatively significantly correlated with academic achievement. Where the per capita expenditure was more, the academic achievement had remained very low. In public schools, the per capita expenditure was two to three times more when compared with private schools' expenditure, but the academic achievement of those public school students was very low when compared with private school students. Thus, an inverse correlation between per capita expenditure and academic achievement was ascertained.

Correlation between Teacher-Pupil Ratio and Academic Achievement

The coefficient of correlation between academic achievement and teacher-pupil ratio was estimated as -0.33 which showed a negatively significant correlation. This means that those students' academic achievement was high in whose school the number of students per teacher was low. Since, the private schools had a low teacher-pupil ratio, it meant more teachers were available for imparting education in comparison to public schools which resulted in better achievements of students. It may be inferred from this that a teacher can devote more time to each students if the number of students in the class is low. On the other hand, where teacher-pupil ratio was high, the achievement of students was low that is in public schools.

Coefficient of Correlation between Academic Achievement and Independent Variables in Public Schools

In the public sector schools, the coefficient of correlation was computed between academic achievement and other seven independent variables. But out of seven variables only four variables were found significantly correlated with academic achievement. A brief description of these correlations is given below:

Correlation between Class Level and Academic Achievement

The correlation between the class level and academic achievement was found negatively significant. The negative

correlation in this context meant that the academic achievement of class V students is was very low in comparison to class VIII students in public schools. The coefficient of correlation between these two variables was estimated as -0.29 which is significant at .01 level.

Correlation between Sex Differences and Academic Achievement

In the public sector schools the correlation between academic achievement and sex was found significant. The coefficient of correlation between these two variables was .09 which is significant at .01 level.

This implies that the academic achievements of boys was fairly encouraging and high as compared to girls. The sex has proved a significant correlate of academic achievement and in favour of boys in public schools.

Correlation between Socio-Economic Status and Academic Achievement

The correlation between academic achievement and socio-economic status was found positively correlated with each other. The coefficient of correlation between these two variables was estimated as .26 (the level of significance=.01). This means that those students who belonged to higher socio-economic status had performed better and scored higher in academic achievement in comparison to the students who belonged to lower socio-economic status groups.

Correlation between School Expenditure and Academic Achievement

These two variables were correlated with each other and a correlation coefficient of -0.09 was obtained between these variables (the level of significance=.01). This means that academic achievement had an inverse relation with school expenditure. The schools where comparatively more expenditures were incurred, the students from those schools had obtained low academic achievement scores. And the schools

where less expenditure were incurred, the achievement level was recorded higher. So, the correlation between these two variables was found inverse. In public sector schools the comparatively huge expenditures were not found positively correlated with academic achievement

The independent variable like school quality, per capita expenditure and teacher-pupil ratio as shown in correlation analysis table were not found significantly correlated with academic achievement.

Coefficient of Correlation between Academic Achievement and Other Independent Variables in Private Sector Schools

In the private schools, the coefficients of correlation between academic achievement and other seven independent variables was computed. Out of seven independent variables only three variables had emerged as significantly correlated with academic achievement. A brief description of the correlation of these variables is given as under:

Correlation between Socio-Economic Status and Academic Achievement

The correlation between academic achievement and socio-economic status was found positively significant. The coefficient of correlation between these two variables is .20 (the level of significance=.01). This implies that the achievement level of those students was very high whose socio-economic status was also high in comparison to those students who belonged to lower socio-economic status groups of society. The achievement level of those students have been found comparatively poor in whose case the socio-economic status was low.

Correlation between Academic Achievements and School Expenditure

In private sector schools academic achievements were found positively correlated with school expenditure. The coefficient

of correlation between these two variables is .10 (the level of significance=.01). This shows that the schools where school expenditure is comparatively high, the academic achievement of students belonging to those schools also remained very high. The schools which were operating on low costs, their students also performed poorly in academic achievements. So, there is a positive and significant correlation between institutional expenditure and academic achievements as found in private schools.

Correlation between Academic Achievement and Per Capita Expenditure

The academic achievement and per-capita expenditure was also found positively significantly correlated with each other in private sector schools. This implies that the schools within the private sector where per capita expenditure had remained high, the performance of students in academic achievement had also remained encouraging and high in comparison to the students of those schools where per capita expenditure was found low. The coefficient of correlation between these two variables is .09 which is significant at .01 level.

The other independent variables like class, gender, school quality and teacher-pupil ratio, in the correlation analysis table show that there is no significant correlation between these independent variables and academic achievement in private sector schools.

Determinants of Academic Achievements

For a more detailed analysis, a regression analysis technique was used on the composite sample including both private and public schools and also separately on private and public school sample. In order to determine the extent to which the dependent variable, i.e., academic achievement could be predicted by a set of independent variables.

Table 5.22
Determinants of Academic Achievement in Composite Schools (Private and Public Schools)

Independent Variables	*Dependent Variable Academic Achievement*		
	Beta	*Simple r*	*t-values*
V1 School type (1=private, 2=public)	-0.60**	-0.49**	10.91
V2 Class (1=VIII, 2=V)	-0.10**	.09**	4.3
V9 SES	.19**	.18**	7.02
V11 Quality (Infrastructural facilities)	-0.11**	.36**	2.56
V12 Quality (Curricular facilities)	-0.11**	.25**	3.45
V13 Quality (Co-curricular facilities)	.16**	.30**	5.84
V24 Per capita expenditure	.11**	-0.33**	3.04

Multiple R= -0.57.
**. Significant at .01 level.
R. Square=.33.

Determinants of Academic Achievement in Both the Types of Schools

In the regression analysis, firstly, the composite sample was taken into consideration and the Table 5.22 shows the results of regression analysis which are explained below:

School Type

This variable has significantly contributed to academic achievement (Beta=-0.60). The negative sign shows that students belonging to public schools performed poorly in academic achievement as compared to private school students. The achievement level of students in private schools was significantly high (the level of significance=.01). The coefficient of correlation between the two variables is -0.49 and the t-value is 10.91.

Class Level

The class level has contributed significantly towards academic achievement. The class V students have performed poorly than VIII class students in academic achievement (Beta=-0.10). The difference in academic achievement between the two classes is significant at .01 level (t-value=4.3) (r=.09).

Socio-Economic Status

As per Table 5.22, the socio-economic status had positively and significantly contributed towards the determination of academic achievement (Beta=.18). It established that the students belonging to high SES groups of society had performed better in academic achievement than those pupils who come from lower socio-economic sects of society. The difference in academic achievement of students from high and low SES groups of society was found significant at .01 level (t-value=6.61) (r=.35).

School Quality

The four components of school quality were used in regression analysis but only one out of them namely, co-curricular facilities were found significantly contributing towards academic achievement (Beta=.16) This means that high achievement scores are partially the function of the above mentioned variable. The other two variables namely infrastructural facilities and curricular facilities show a negative predictability (Beta=-0.11 for both the variables.) But the coefficients of correlation between academic achievement and these quality components were found significant (the level of significance=.01) (r=.36, .25, .38 respectively).

Per Capita Expenditure

The per capita expenditure had significantly contributed towards the determination of academic achievement, (Beta=.11, the level of significance=.01). But, at the same time, the correlation between per capita expenditure and academic

achievement was found negatively significant. The coefficient of correlation between the two variables was -0.33 (the level of significance=.01), which had established the inverse relationship between academic achievement and per capita expenditure. The negative correlation here means that the situation available in public schools on the whole is such that public schools operated at higher costs but the obtained achievement by students in such schools were miserably poor in comparison to private school students. On the other hand, private schools with the small amounts to spend in comparison to public schools, showed better results in shape of academic achievements.

The R. Squared in the Table 5.22 shows that all the independent variables in the table contributed to academic achievement up to the extent of 33 per cent.

Determinants of Academic Achievement in Public Schools

A separate regression analysis was made on the sample belonging to public schools and the results of such analysis are presented in Table 5.23.

Table 5.23

Regression Analysis on Academic Achievement as Dependant Variable and Other Independent Variables in Public Schools

Independent Variables	*Dependant Variable Academic Achievement*		
	Beta	*Simple r*	*t-values*
V2 (Class)	-0.09**	-0.29**	3.86
V9 (SES)	.19**	.26**	7.17
V10 (School Quality)	.15**	-0.08*	4.81
V13 (School Quality)	.16**	.33**	5.19
V24 (Per capita expenditure)	-0.20**	.02	7.62
V25 (Teacher-pupil ratio)	-0.11**	.02	4.43

Multiple R=.53. ** Significant at .01 level.
R. Square =.28. * Significant at .05 level.

The interpretation of the Table 5.23 is given below:

Class Level

The class level had significantly contributed towards the determination of academic achievement (Beta=-0.9). The minus sign in the present context refers to the class V students. This means that in public sector schools, class V students had performed poorly in academic achievement than class VIII students. This was also indicated by the coefficient of correlation (r = -0.29) between the academic achievement and class level. The correlation between these two variables is also negatively significant (the level of significance=.01 level).

Socio-Economic Status

As per Table 5.23, socio-economic status has positively and significantly contributed towards the determination of academic achievement (Beta=.19). It established that the students from high socio-economic standards or status had performed better in academic achievement in comparison to those students who came from lower socio-economic status of society. The correlation coefficient between these two variable is also significant at .01 level (r=.26) (t-value=7.17).

School Quality

The four quality variables V10, V11, V12 and V13 were used in the regression analysis but only two quality components namely V10 (academic and non-academic manpower facilities) and V13 (co-curricular facilities) were found determinant regressors in the academic achievements. The Beta value of these two variable was estimated as .15 and .16 respectively (both significant at .01 level) This implies that achievement scores of public school students were partially due to the function of above mentioned variables. However, the coefficient of correlation between V10 and academic achievement is -0.08, which means that this variable is not positively correlative with academic achievement.

Per Capita Expenditure

An inverse predictability was noted on the per capita expenditure on one hand and academic achievement on the other (Beta=-0.20). This showed that the public schools were operating on high per capita expenditure but the obtained academic achievement scores of students from these schools were very poor and low.

Teacher-Pupil Ratio

A negative predictability was found between teacher-pupil ratio and academic achievement (Beta=-11) which is significant at .01 level. This can be explained as, where the teacher-pupil ratio low, the academic achievement was higher or where the ratio of students with respect to teacher was low, the achievement level of students was comparatively higher. Thus in public schools where teacher-pupil ratio was high, the academic achievement of student was low.

The gender variables had a significant correlation with academic achievement as shown in the Table 11 in case of public schools, which may be due to other factors. In the regression Table 5.23, this variable was not found to be contributing significantly to academic achievement. This may be so, because in the regression the influence of other variables is partialled out.

The R. Squared in the Table 5.23 show that all the independent variables in the table had contributed to academic achievement upto the extent of 28 per cent.

Determinants of Academic Achievement in Private Schools

In another regression analysis the sample from private schools only was taken into account. The results of this analysis are presented in Table 5.24 and the interpretation of table is given as under:

Table 5.24

Regression Analysis on Academic Achievement as Dependant Variables and Other Independent Variables in Private Schools

Independent Variables	*Dependant Variable Academic Achievement*		
	Beta	*Simple r*	*t-values*
V3 (Gender)	.09**	-0.05	1.98
V3 (SES)	.16**	.20**	4.20
V10 (Quality)	.48**	.17**	7.25
V11 (Quality)	-0.51**	-0.08*	7.42
V12 (Quality)	-0.09*	-0.01	3.43
V13 (Quality)	.14**	.10**	3.05
V24 (Per capita expenditure)	-0.18**	.09**	1.98

Multiple R=.40.
R. Square=.16.
** Significant at .01 level.
* Significant at .05 level.

Table 5.24 estimates the predictability of seven variables out of nine such variables. The independent variables in the analysis had both positively and negatively affected the predictability of the dependant variable, i.e., academic achievement. A brief description of the table is given below:

Socio-Economic Status

The socio-economic status had emerged as a significant regressor in the determination of academic achievement (Beta =.16) (The level of significance=.01) in the private sector. Besides, the coefficient of correlation between socio-economic status and academic achievement was estimated as .17 (significant at .01 level). All this shows that students who belonged to high socio-economic status, had performed well in academic achievement than those students who came from lower socio-economic status of society.

School Quality

The four components of school quality, viz., V10 (academic and non-academic manpower facilities), V11 (infrastructure), V12 (curricular facilities) and V13 (co-curricular facilities) were used in regression analysis. Out of these four regressors, only two regressors, V10 and V13 were found positively contributing towards the determination of regress and, i.e., V8 (academic achievement). The estimated Beta between these variables and academic achievement was .48 and .14 respectively (both significant at .01 level). This means that the school quality with reference to academic and non-academic manpower facilities and co-curricular facilities were the positive determinants of academic achievement. The coefficient of correlation between these two variables and academic achievement was also significant. (r=.17 and .10 respectively) (t -value 7.25 and 3.05 respectively). However, in case of V11 and V12, these two variables had shown inverse predictability in the private sector (Beta=-0.51 and -0.09 respectively). This means that in private schools it can be concluded that academic achievement is not partially the function of V11 (infrastructure) and V12 (curricular facilities). The coefficient of correlation as estimated with regards to these variables and academic achievements were also found negatively correlated (r=-0.08 and -0.01 respectively). So, both the correlation and determination analysis had shown that these two variables are not positively related with academic achievement.

Per Capita Expenditure

A negative predictability between per capita expenditure and academic achievement was found in the private sector. The estimated Beta of -0.18 is significant at .01 level between these two variables. This implies that low per capita expenditure was a determinant of regress and, i.e., academic achievement. In other words, this may mean that where the per capita expenditure was high, the academic achievement was low and where

per capita expenditure was low, the academic achievement was high.

Gender

Sex has also proved a significant determinant of academic achievement in private sector schools (Beta=.09) (the level of significance=.01). This shows that in private school, boys have performed well in academic achievement than girls. However, as per the correlation of coefficient (r=-0.01) between these two variables, the correlation between these variables was not significant.

The R. Squared in Table 5.24 shows that all the independent variables in the table had contributed to academic achievement up to the extent of 16 per cent.

Table 5.23 and 5.24 show that the correlation coefficient of variable 25 in Table 5.23 and variables 3, and 25 in the Table 5.24 were not significant with the academic achievement. However, the Beta value of these variables was significant. This may mean that the correlation coefficient is the relationship of only two variables. This relationship may be due to other factors. In the regression analysis, the effect of other variables is to set apart and its own contribution or relationship emerges.

6

Discussion and Findings

Discussion

During the past few years a plethora of research studies had accumulated in the field of school quality, investment in education, socio-economic status and academic achievement at elementary stage of education in developed countries. In this direction, a number of studies conducted include studies by Brickell (1958); Ross (1958); Fritize (1969); Kathryn (1996); Magdalena, et al. (1997) Heyneman and Loxely (1983), Psacharopoulas, et al. (1997), Goldhabar (1996); David (1992); Harter (1999); James, et al. (1996); White (1992), Heidth (1996) and Middleton (1996). Among the Indian studies the prominent and pertinent ones are the studies conducted by Das (1974); Bashir (1994); Manvikar (1982); Shekhar (1984); Varghese (1994); Singh (1996); Kingdon (1996); C.G. Venkatesha Murthy and Renu Kulshreshtha (1999); Malathy Duraiswamy (1996); Ramaswamy (1980); Ganguly (1989); Padan, A. (1988); Zahid (1996); and many others. The summary of the studies conducted by the above mentioned scholars has been presented

in the chapter of related literature. A critical understanding of all the mentioned studies so far revealed that the results of these studies are inconclusive and generally contradicting the findings with each other. There is no uniformity in the findings either in India or abroad elsewhere. The present study too substantiates the findings of some studies either fully or partially and contradicts with some others.

The major thrust of this study was to make a comparative study of schools between private and public schools on the variables like school quality, funding, SES and academic achievement. Besides, some other variables like teacher-pupil ratio, sex difference and class level as correlates of academic achievement were also studied in a comparative fashion.

The comparison on the above variables between private and public schools as presented in the preceding chapter revealed certain results that confirm the results of some earlier studies whereas some are in contradiction. Our result with regards to school quality showed that private schools possess comparatively better quality which comprise of various components like academic and non-academic manpower facilities, infrastructure, curricular and co-curricular facilities (Table 5.11). And this quality had undoubtedly contributed towards higher academic achievements of private school students in comparison to their counterparts in public schools (Table 5.21) ($r = .40$). This finding is certainly in line with the studies conducted by Das (1974), Postlethwaite (1975), Rutter et al. (1979), Kathryn (1996), Magdelena, et al. (1997), Varghese (1994), Govinda and Varghese (1993), Bashir (1994), Kingdon (1994) and others. However the results are not in full agreement or conformity with the findings of the study conducted by Hanusheck (1986). Besides, Varghese (1994) found that school infrastructure and availability of teaching material does not seem closely related with the levels of learning. But, in our quality comparisons, private schools' superiority over public schools have been found dominant which has ultimately

contributed towards better achievements especially the quality components of academic and non-academic manpower facilities and co-curricular facilities. Urwick and Junaido (1991) have also shown that facilities like building, separate classroom, student desks, etc., determine the very organisation of teaching-learning activities and they influence learner achievement. The correlation coefficients analysis in this study also show that two out of four components of school quality like infrastructure, curricular and co-curricular facilities of school quality are positively correlated with academic achievement ® =.36, .25 and .30 respectively).

The results of statistical analysis regarding the comparative status of academic achievement between private and public schools showed a remarkable difference. But the achievement level of students in both the types of schools was found very low in the V and VIII classes. This finding is in line with almost all studies conducted in India on the levels of learner achievement. One of the first major studies on learner achievement at primary stage was conducted in 1967 (Kulkarni, 1970) by NCERT. This study showed low levels of achievement in Mathematics at primary stage. The study conducted by Shukla (1974) also found that the levels of learner achievement in Hindi and Science are rather low. Similar were the results of the study conducted in Madhya Pradesh (Govinda and Varghese, 1993). Various comparisons were made on the basis of school type, gender and class level. In all such comparisons, private school students scored very high on 'Academic Achievement Tests' (Tables 5.1 and 5.2).

The gender-based comparisons showed that male students from private school outsmarted their counter parts in public schools in all subjects (Table 5.3 and 5.4). Similarly, girls reading in private schools had scored high on achievement tests, than the public school girls (Table 5.5 and 5.6). These findings corroborate the results of the studies conducted by Psacharopoulas, et al. (1997), Varghese (1994), Singh (1996) Kingdon (1994), Bashir (1994), Murthy and Kulshreshtha

(1995), and Duraiswamy (1996). But our findings contradict with the results of some studies like that of Goldhabar (1996) who found that private schools have no statistically significant advantage in the education of mathematics and reading over public schools. Similarly, a study conducted by White (1992) found that the difference in achievement in private and public schools is trivial in size and highly uncertain. The reasons of the variations in the results of the studies conducted in the West and India may be because in the developed world, both private and public schools operate with similar basic facilities available with them which is not true in case of India. The variations in the academic achievement of students in developed world is due to family background whereas in the developing world including India, school factors are largely responsible for variations in achievement levels of students. In one of the early studies conducted by Heyneman and Loxely (1983), it was concluded that the factors determining learner achievement in the developed world are different from that in the developing world. More specifically, it was found that home background factors are more important and reliable factors in predicting learner achievement in the developed world whereas school factors continue to be important in predicting learner achievement in the developing world.

The institutional expenditure in private and public sector schools was calculated by using an 'Expenditure Schedule' on four major areas of school activity like expenditure on academic and non-academic manpower facilities (salaries), infrastructure, curricular and co-curricular facilities. The statistical analysis revealed some large variations in the institutional expenditure between private and public schools. The overall expenditure was found significantly huge in the public sector where the bulk of expenditure was incurred on academic and non-academic manpower facilities (salaries) which constituted 97.71 per cent of their total school spending (Table 5.13). In contrast, private schools were found operating on low costs in comparison to public schools and from their total spending a

reasonably good amount (22.31 per cent) was found being spent on other school activities like infrastructure, curricular and co-curricular programmes of school.

It is interesting to note that huge spending and high per capita expenditure in public schools was found inversely related with academic achievement (r=-0.33) while in private schools the comparatively low costs had a positive correlation with the performance of students.

To put these findings in an other way may mean that more spending leads to low achievement. But this kind of situation is to be understood in a different perspective. Most studies investigating the relationship between educational expenditures and student achievement use a basic conceptual model that defines achievement as a function of school resources, student ability, students socio-economic background and other school characteristics such as school size (Harter, 1999). In the present study, the situation emerged like that 97.71 per cent of school expenditure in public schools was incurred on salaries alone and a negligible amount was left for other programmes like infrastructure, curricular and co-curricular facilities that had a direct bearing on student performance. In the private sector, a reasonably good amount from total expenditure was spent on these activities which ultimately yielded better achievement levels of students. These activities are considered as stress lowering activities. It can be said that more spending on these stress lowering activities lead to comparatively better achievement levels.

The findings of this study with regard to institutional expenditure coincide with the findings of the study conducted by Harter (1999) which shows that teachers' basic salaries constitute the bulk of school spending and that the low achievement schools have relatively high payrolls expenditures per pupil. In another study conducted by Padan (1988), it was found that school costs are not significantly related with scholastic achievement. Our results also corroborate with the findings of Duraiswamy (1996) who found that despite low

expenditure and costs of schooling, private unaided schools do significantly better than public schools in subjects of Maths and languages. It was also found that private schools operate at low costs than public/government schools. Hanushek (1986) also revealed that, there is no strong or systematic relationship between school expenditure and student performance.

Now the question arises whether low school expenditure enhance poor achievement or it is management type or spending on other areas of school activity that enhance student performance. The available literature on this count shows that teacher salaries which constitute the bulk of institutional expenditure is least positively related with achievement Hanushek (1986) and Chubb and Moe (1990). On the other hand, school facilities like building, separate classrooms, student reading places positively influence learner achievement (Arriagada, 1983; Muammwends and Muammwenda, 1987; Urwick and Junaido, 1991; Varghese, 1996; Govinda and Varghese, 1993). The present study revealed that in public sector schools a negligible amount was being spent on these areas of school activity in comparison to private sector schools where a reasonably good percentage (nearly 22.31 per cent) is being spent on these activities as per calculations made so far in the present study. More recently it has been argued that schools that rely heavily on parental or other local resources of finance are more likely to operate efficiently (Jimenz and Paqueo, 1993). Besides, it has been found that, privately managed schools behaved differently from public managed schools because they have different objective function, great autonomy, and they have to face greater pressure from market place to operate efficiently (Estelle, et al., 1999). The similar conclusions were made by Chubb and Moe who stated that "money is not what makes some schools more effective than others. Better schools do not require lots of expensive equipment or huge new buildings or vast libraries. The performance problem of schools have little or nothing to do with inadequate funding and they cannot be corrected by digging deep into the public purse".

In another set of comparison between private and public schools, the socio-economic background of students was assessed by using A.G. Madhosh's and K.P. Rafiqui's 'Socio-Economic Status Scale (Rural)'. The clientele from those two types of schools were found to differ significantly in all the comparisons made so far. The private school clientele was found to come from high SES sects of society in comparison to public school clientele. In separate comparisons made on the class and gender basis, public school clientele was found to be hailed from lower sects of society. An interesting finding with regard to socio-economic background of students in public sector schools was that despite the high SES, the girls were sent to public schools whereas the boys from same SES category were enrolled in private schools (Table 5.20). Undoubtedly, this shows the parental bias towards male children as they were made to attend private schools where they perceive to have better school quality and the same parents prefer to enrol their female children in public schools. This finding coincides with the finding of Public Report on Basic Education in India which states that "private school enrolment is biased towards males".

The correlation analysis between SES and academic achievement made in this study show that high SES is significantly and positively correlated with achievement of learners. ($r = .35$). The predictive relationship between SES and academic achievement was also found positive in private schools, public schools and collectively in private and public school (Beta = .16, .15 and .18 respectively). Such findings do coincide with the results of the studies conducted by Ramaswamy (1988), Ganguly (1989), Singh (1996), Varghese, (1994) and Harter (1999). However, Padan (1988) found that SES of students had hardly any impact on the achievement level of students. Besides, Qudah (1994) found that there exists a negative correlation between academic achievement and SES. But, our findings are in line with the number of studies conducted in India and abroad, some of which have already been mentioned.

As regards to teacher-pupil ratio, the same was calculated in both the types of schools and then compared with each other. These types of schools (private and public) were found to differ significantly on teacher-pupil ratio (Table 5.15). The teacher-pupil ratio in private sector was found significantly low (1:24) in comparison to public sector schools where it is very high (1:28). As per the statistical analysis, teacher-pupil ratio was found negatively correlated with academic achievement ($r = -0.13$) in this study. This shows that high teacher-pupil ratio leads to low levels of academic achievement and where teacher-pupils ratio is low (private sector), the achievement level of learners has been comparative very high. To put this finding in another way means that low teacher-pupil ratio is positively correlated with achievement. Such findings corroborate with the results of Bashir (1994), Padan (1988), Malathy Duraiswamy (1999) and Singh and Saxena (1995).

Testing of Hypotheses

For this research project a number of hypotheses were formulated. The first hypothesis, which reads "that the achievement level of private school students is far better than public school students" was tested at the class level V and VIII separately. The t-value shown in the Table 5.2 and 5.1 established the supremacy of private school students over public school students in academic achievement. This superiority was established in the individual subjects like, English, Science, Social Science and Maths as well as in the overall or total achievement by private school students. (t-value = 16.27, $P > .01$ and t-value = 12.26, $P > .01$ respectively). Hence, this hypothesis stands approved.

The second hypothesis formulated in this study states, "that in the academic achievement both boys and girls of private schools perform better than their counterparts in public schools". To test this hypothesis, gender-based comparisons were carried out in class V and VIII separately (Tables 5.3, 5.4, 5.5 and 5.6) between the students of private and public schools.

Both the private school boys and girls established their superiority over public school boys and girls by performing well in English, Science, Social Science and Maths and in overall academic achievement (the level of significance was found at .01 level in all the subjects and in all the cases.). Thus, the hypothesis, "that in the academic achievement both boys and girls of private schools perform better than their counterparts in public schools," is approved.

The hypothesis number three reads as, "quality of education in private sector is better than what is available in public sector". In order to test this hypothesis, comparisons between the school quality in private and public sector were made and the test of significance was applied. A mean difference of 29.07 points (Table 5.11) being significant establishes the superiority of private schools in the quality of education ($t = 9.93$, $P > .01$).

The fourth hypothesis formulated in this study states that, "cost per capita in public schools looms large as compared to private schools". To test this hypothesis comparison on school expenditure in private and public school was made and the test of significance applied. A mean difference of Rs 2,161 in the per capita expenditure between these two types of schools per annum being significant ($t = 9.05$, $p > .01$) established the substantial hike of per capita expenditure in public schools against the private schools.

This was more or less an obvious result because a careful examination of the public sector expenses and that of the private sector leads one to conclude that the government-run schools have bigger treasuries to sweep than the private ones.

The fifth hypothesis set for this research project states, "that school entries (admissions) to private and public schools is conditioned by SES". This hypothesis was tested in various aspects like class and sex being taken into consideration in private and public schools and the tests of significance were applied. In first instance, the mean difference of 10.83 points on SES scale between private and public clientele was significant

(Table 5.15) ($t=12.35$, $p>.01$) which implies that the school entries to private sector are limited to students belonging to high SES. The SES comparisons in class V and VIII was also carried out separately between private and public schools (Table 5.18 and 5.19). These comparisons also establish the significant difference ($t=9.46$, $P > .01$) and ($t=8.27$, $P > .01$) respectively and again this difference has been in favour of private school students. All these computations and comparisons held that relatively, admission to private sector schools are limited to the upper sects of society, while public schools are open generally for poor people of society. Hence, our hypothesis, "that school entries to (admission) private and public schools is conditioned by SES," is approved.

Findings

As a result of analysis and interpretation of data, the investigator was able to obtain some findings which are presented below:

1. The achievement level of students was found very low in both private and public schools and in both the classes, that is, V and VIII. The private school students on an average obtained 39.57 per cent marks in class V and 40.70 per cent in class VIII. The mean achievement score of public school students was estimated as 23.29 per cent in class V and 29.44 per cent in class VIII. Thus, in both the types of schools and in both classes, the obtained mean score of students had remained very low.
2. The private school boys of class V and VIII performed significantly well in the academic achievement than their counterparts in public schools in all subjects. Similarly, the private school girls outscored the girls of public schools in English, Science, Social Science and Maths. However, the boys and girls did not differ with each other in academic achievement within the private schools or within the public schools.

3. The quality of schooling in private sector schools was found comparatively better than public schools in all the areas or components of school quality. The total score obtained by private schools on average on the 'Quality Assessment Questionnaire' was 84 points while public schools on an average obtained only 57 points.
4. The average public school expenditure per annum was found to be huge (Rs 7.58 lacs) in comparison to private school expenditure where it was estimated as Rs 3.11 lacs.
5. The expenditure on academic and non-academic manpower facilities (salaries) constituted 97.71 per cent in case of public schools and 77.67 per cent in case of private schools.
6. The private school spending per annum on other areas of school activities like provision of infrastructural facilities, curricular and co-curricular facilities constituted 22.31 per cent of total expenditure while in public sector schools, amount on these facilities constituted only 2.29 per cent of their total annual expenditure.
7. The per capita expenditure in private schools on an average was found as Rs 1,123 and in public school, it amounted to Rs 2,384.
8. The teacher-pupil ratio in public schools was very high (1:28) in comparison with private schools where it was 1:24.
9. The private school clientele did come from comparatively high SES (middle class) groups of society while the students reading in public schools belonged to lower socio-economic sects (lower-middle class) of society.
10. In private schools, the difference in socio economic status of students on gender basis was not found. But in public sector schools girls were found to belong comparatively in higher socio economic status sects of society than boys.
11. The relation between the type of school and academic achievement of students was found positive. Private school students performed significantly better than public school

students in academic achievement both in class V and VIII and in all subjects like English, Science, Social Science and Maths. In the overall achievement too, private school students had scored higher than the public school students.

12. The school quality and academic achievement was positively correlated with each other. The better school quality lead towards higher scores in academic achievement. In other words, the level of academic achievement was very high where school quality was superior.
13. The huge institutional expenditure and the academic achievements were found inversely correlated with each other. The achievement level of students in public sector was compatibly very low but the expenditures in such schools was significantly more. However, a positive correlation between school expenditure and academic achievement was noticed within private sector schools only.
14. Socio-economic status was positively related with academic achievement. The students belonging to high SES had performed well in academic achievement than the students whose SES was found low.
15. The low teacher-pupil ratio was positively correlated with academic achievement. The private schools operated with comparatively low teacher-pupil ratio than public schools.
16. The school type had emerged as a significant contributor in the determination of academic achievement. Accordingly, private schools students performed better in academic achievement as per their Beta value and coefficient of correlation.
17. Except in private schools, class level had contributed in the determination of academic achievement levels of students in public schools as well as in the composite sample of students. Class VIII students had performed better than class V in their respective achievement tests.

18. The socio-economic status had emerged as a single regressor in the determination of regression, that is, academic achievement in private and public schools as well as in the composite of both private and public schools.
19. The quality components namely academic and non-academic manpower facilities and co-curricular facilities emerged as significant regressors in the determination of academic achievement in private and public schools when taken separately. However, the other two components of school quality namely curricular facilities and infrastructure were not found as significant determinants of academic achievement in both private and public schools.

7

Summary and Conclusions

Education is one of the most important factors responsible to shape the personality of an individual. It is the potent source for material and human development. Especially the "basic education" is an indispensable passport to life (Delor, 1996) upon which the quality of further education and life depends. All committees and commissions on education at state, national and international level have stressed on the role of education, particularly of primary education in the well-being of individual and society at large. Article 26 of UN Universal Declaration of Human Rights; Article 45 of Indian Constitution; the Declaration of World Conference on "Education for All" held in March, 1990 in Thailand; the Supreme Court of India's judgement of 1993 declaring primary education as a Fundamental Right; the Indian Education Commission Report 1964-66; the National Policy on Education 1986; and Article 20 of the Constitution of Jammu and Kashmir, all these documents recognise the need and importance of free and compulsory elementary education.

There is no doubt that India has failed to universalise elementary education even at the turn of 20th century, despite

the constitutional and other statements of intention as mentioned above. The latest *Provisional Census Totals of India-2001* reveal that literacy percentage in India is still 65.38 per cent which invariably means that 34.62 per cent of our population is still in the darkness of illiteracy. The situation among women is more serious and alarming. But no one can deny the fact that India has succeeded to a great extent to universalise elementary education, as 95 per cent of population has access to primary education within a walking distance. In addition to governmental efforts, private agencies, religious bodies, voluntary organisations have established many primary and elementary schools so that the objectives of universal enrolment, universal retention and quality type primary education is realised.

India, at present, is on the fast track of globalisation. The decade of nineties has experienced the liberalisation of the most of economic activity. In the new millennium, we have already initiated second generation changes in our economic policies. A shift from public sector to private sector is gaining momentum day-by-day. So, in the field of education also, private sector seems to flourish due to its quality as perceived by most of parents.

The emphasis on the quality of education especially during the formation years of primary education have been substantiated by the volumes of research all over the world and the fact that skills, values, beliefs developed in the primary grades are most significant critical success factors both in education and later in life. This being the reason, quality of education is receiving a priority by the hands of parents and other stake-holders. In order to meet the increased demand of quality education, the private institutions came into existence on a large scale.

The emphasis of private educational institutions has come up as a result of increased demand and aspiration of parents for quality education. The situation in India is not different.

Private educational institution have come up in India in response to growing educational requirements of pupil's expressed in terms of desire for good quality education (Odeyard, 1990).

We at present are living in a global village where everyone has equal access to workplaces or workplaces all over the world are open to everybody who are skilful, competent and knowledgeable on this planet. Only those who are technically trained, mentally broadened in their vision and have ability to keep themselves current with the latest information get absorbed. The rest have no room in lucrative workplaces or job markets. Keeping such a technically oriented manpower requirements of 21st century in view 'Smart Schools' emerged in many countries like Australia, Japan, Malaysia and USA to keep pace with latest developments.

Since, education is a service organisation and the services a particular school provides depend upon the inbuilt system of the school, which means the availability of various facilities and the way of its functioning. But our schools, both in private and public sector are very poor in infrastructure, manpower facilities and in curricular and co-curricular programmes with some exception in favour of private schools.

In the present competitive world, we, on the whole, in India, and particularly, in the Jammu and Kashmir State are lagging behind in educational development. The State of Jammu and Kashmir in particular has failed to universalise elementary education and to eradicate illiteracy. The overall present literacy rate in the state is 54.46 per cent and in case of females it is 41.62 per cent only (Census of India, 2001). The state could not succeed in providing infrastructures, manpower facilities and other requisites for retaining the children in schools. Besides, the existing schools seem to be inadequate as per the expectations of parents. Such a situation has resulted in the mushroom growth of private schools in the recent years.

Need for the Present Study

Primary education is of paramount significance for the individual as well as for national development. As such it is an area of major concern in India. Though primary education, at present is a priority sector in education, this section has remained neglected in educational research (Dave and Murthy, 1994). Especially, the area of school quality in relation to other variables like SES, expenditure and achievement have not been researched upon extensively in India. A good number of empirical studies in developed countries have been conducted at elementary stage. But in India except for studies like that of Bashir (1994) and Kingdon (1994), no other study makes a comparative analysis of achievement directly between private and public schools.

At present, there is a general trend of privatisation, that gave rise to establishment of private schools both in urban as well as rural areas in the country. At the same time, there is a paucity of research activity at the elementary stage of education in this new scenario in the whole country and particularly in Jammu and Kashmir.

In J&K a number of studies have been conducted on variables that affect academic achievement like intelligence, creativity, SES, teacher-pupil ratio, evaluation techniques, use of educational technology and giftedness, etc. But the question of quality has not been researched upon, neither alone nor with other variables like fundings, SES, achievement, etc. Only one comparative study between private and public schools was conducted by Dhar (1986) in Srinagar city. The study compared the academic achievement of students belonging to private and public schools on the basis of secondary examinations conducted by Jammu and Kashmir State Board of School Education (1985).

The studies so far conducted on school quality, expenditure and SES as correlates of academic achievements, either in India or outside are mostly based on survey reports. Besides, in

the contemporary educational research, there exists a lack of research activity regarding involvement of private schools in education especially at primary stage (De et al., 2000). In this backdrop, the investigator, keeping such a lack of educational research at elementary stage of education in view, felt the need and found solid reasons to conduct a study that will attempt and give a clear picture about the comparative status of private and public schools in district Anantnag.

State Perspective

The state of Jammu and Kashmir called the crown of India is situated at an altitude of 5,000 to 6,000 metres from the sea level. The total area of the state is 22,08,070 sq kms, but the area held by India is only 1,38,134 sq kms (*Census of India 2001, Provisional Population Total*). The state is divided into two administrative divisions, viz., Jammu and Kashmir. Ladakh forms a part of Kashmir division.

The state possess some unique features within the Union of India. It has its own Constitution and flag. It enjoys a special status under Article 370 of the Constitution of India. It is the only state that operates from two state capitals Srinagar (during summer) and Jammu (during winter).

Education in Jammu and Kashmir

Kashmir has remained a seat of learning in the ancient times. It has produced scholars who contributed a lot in the fields of literature, medicine, poetry, astrology, politics, mathematics and philosophy (Rasool and Chopra, 1986). Kalhana in his *Rajtarangni*, has narrated the importance the people of Kashmir attached to learning. During the Muslim rule, the promotion of learning continued. After Muslim rule in Kashmir, education started deteriorating. It was during 'Chak Dynasty' that educational developments got strangled and the decline in education continued through the rules of Afghans and Sikhs.

During the pre-independence period, efforts were made by rulers like Maharaja Ranbir Singh, Maharaja Pratab Singh and

Maharaja Hari Singh to promote education on modern lines. But little could be done in the field of education. The literacy percentage in the state prior to independence was very low and it was just 12.95 per cent in the year 1961 but after independence much attention was given towards education. Educational institutions were opened on a large scale. Various committees and commissions were appointed to make recommendations for upliftment of education. When the Constitution of Jammu and Kashmir came into existence in 1956, it provided for free and compulsory education. Article 20 of the Constitution provided that, "within the period of 10 years from the commencement of this constitution (20-10-1956) compulsory education for all children until they complete the year of 14 years".

At present, we find a large expansion in the establishment of schools, recruitment of teachers, provision of educational facilities, increase in the expenditure. All this shows that the system seems somewhat functional. Still the present literacy position is in a very poor condition as only 54.46 per cent of our population is literate, which is the third lowest in the country (*Census of India, 2001*). Among women the situation is more alarming as only 41.82 per cent of women population is literate.

The district Anantnag is famous for various shrines, temples and health resorts. Among the well known shrines are the shrine of Zairat-e-Rashe Maloo (Baba Hyder Rashe), Shrine of Zain-ud-Din wali, Shrine of Syeed Hussain Simnani and Shrine of Baba Naseebu-Din. The famous temples are the Sun temple at Marthand and the Holy Amarnath cave. The Phalgam, Kokernag, Achabal, Verinag and Duksum are some important health resorts of district Anantnag.

Agriculture is the main source of livelihood of the people in the district. About 80 per cent people of the district are involved in agriculture-related activities. A good number of people earn their livelihood by means of handicrafts like carpet

weaving, crewal embroidery, Gubba embroidery and willow work.

The locale of the present study was the district Anantnag of J&K State. Anantnag has made tremendous progress in the field of education. The school facilities have reached in the near past to all villages of the district. The enrolment has gone up considerably. At present, there are 1,492 educational institutions up to class XII (both private and public) besides two degree colleges and one college of education. The district Anantnag has been divided into 18 educational zones; in addition, there are 400 adult education centres in the district.

Although the number of schools in the district and the enrolment therein present a rosy picture, yet the credentials are not very well reflected in the current standards of education being imparted in these schools. The literacy percentage could not be increased. It remained as low as 44.10 per cent, which is extremely low in comparison to state and national level literacy percentages.

Review of Literature

The research in primary education has mostly remained confined within the developed countries and especially so in USA and UK till the 1960s. As regards to developing countries and particularly in India, research in elementary education is not providing a healthy sign. A bibliography of research brought out by NCERT (Dave and Murthy, 1994) revealed that out of 1,800 research abstracts, only 54 studies were carried on primary education.

The investigator scanned the available literature on the subject that pertained to the variables in question. The critical analysis of these studies gave rise to certain substantive inquires which needed to be highlighted and addressed to for the sake of further investigation. Most of the studies whether conducted in India or abroad support multiple results leading to a phenomenon where the need for further research becomes

imperative. The most important studies conducted in India and abroad that pertain to the variables in question are that of Hartar (1999); Pscheroporlas at al, (1999); Glodhabar (1996); Behraman, et al., (1997); David Richard (1992); Mok Magdelena et al., (1997); Middleton Roper David (1996); Kathryn (1996); James Estetlee, et al. (1996); Hadith Herolds (1996); White (1992); Chub and Moe (1990); The important studies conducted in India include the studies by Das (1994); Padan (1988); Varghese (1994); Bashir (1994); Ganguly (1989); Duraiswamy (1996); Veeragahan and Bhatcharya, (1989); Singh (1996); Singh and Saxena, (1995); Zahid (1996); Qudah (1996); Murthy and Kulshreshta (1999); Ramaswamy (1988); Tilak (1995); Kingdon (1994) and Dhar (1986).

The contrary findings of various studies mentioned above, inspired the investigator to conduct a study of comparative nature between private and public schools with respect to certain variables like quality, expenditure, SES, and academic achievement in the district Anantnag of Jammu and Kashmir.

Design of the Study

Since ages a parallel system of education is available in private sector; how does it differ from public sector education, has remained one of the most important question in our educational scenario. The present study is designed to answer this query.

Objectives

The following are the chief objectives of the study:

1. To compare the academic achievements of students enrolled in private and public elementary schools.
2. To compare the academic achievements of students on gender basis.
3. To assess and compare the quality of education in private and public elementary schools.
4. To compare the per capita expenditure on the education of students in private and public schools at elementary stage.

5. To compare the socio-economic status (SES) of parents of children enrolled in both types of schools.

Hypotheses

1. That the achievement level of private sector students is far better than public school students.
2. Private and public school students differ in academic achievement on gender basis.
3. Quality of education in private sector is better than what is available in public sector.
4. Cost per capita in public sector looms large as compared to private sector.
5. That school entries (admissions) to private and organized sector is conditioned by SES.

Definitions of Variables

For the conduct of present study, the investigator has defined different terms as under:

1. *Elementary School:* An elementary school for the present study shall be one with classes for lower and upper primary groups (I grade to V grade and V grade to VIII grade).
2. *Private School:* Private school means any government recognised private elementary school without any financial support and administrative control of local, state or central government.
3. *Public School:* Public school means any elementary school fully controlled, financed, supported and administered by local, state or central government.
4. *Academic Achievement:* Academic achievement for the present study shall mean the total score obtained by the sample groups on the 'Academic Achievement Test' constructed by the investigator for the classes V and VIII separately.
5. *Funding:* Funding in the present study shall mean the total amount spent on the establishment, contingency,

curricular and co-curricular activities, infrastructure and libraries and laboratories by the school.

6. *Quality:* School is a service organisation and the service that schools provides is the opportunity to learn. All services in the organisation both instructional and instructional support services are provided to enhance learning opportunity for the students. The quality has been conceptualised in the following four dimensions in this study.
   (a) Academic and non-academic manpower facilities (qualification of teachers, teacher-pupil ratio, management and supporting staff).
   (b) Infrastructural facilities (school building, toilet facilities, playground, medical facilities and hot and cold arrangements.)
   (c) Curricular facilities (syllabus, audio-visuals aids, methodology of teaching, assessment of achievement and communication of results).
   (d) Co-curricular facilities (debates, cultural programmes, music, songs and sports, events like indoor and outdoor games).

Locale of the Study

The district Anantnag of Jammu and Kashmir was selected as the area of study for collection of data. Anantnag has been divided into 18 educational zones. The investigator selected two elementary schools (one each from private and public sector) for the purpose of study. However, due to non-availability of one government recognised private school in the D.H. Pora zone, only 17 educational zones were finally selected for data collection.

Sample

Sample of the Students

The working sample of students was drawn from grade V and grade VIII of the selected schools. The reason for selecting these two classes is that, these two classes are of a terminal nature in a

way and expected to provide us with a clear picture on the variables under study. All students enrolled in class V and VIII of these 34 schools constituted the sample of students for the purpose of present study.

Sample of Headmasters and Principals

All the 17 headmasters of the government managed public school and the 17 principals of privately managed elementary schools from which the sample of students was taken, constituted another sample.

Tools

According to the requirements of the study the following tools were used by the investigator:

1. Socio-economic Status Scale (rural) (SES) by A.G. Madhosh and K. P. Rafiqui.
2. Quality Assessment Questionnaire (QAQ) developed by the investigator.
3. Expenditure Schedule constructed by the investigator.
4. Academic Achievement Test (AAT) for class V students developed by the investigator.
5. Academic Achievement Test (AAT) for grade VIII students developed by the investigator.

The validity and reliability of the tests developed and administered by the investigator were obtained by the proper procedure.

Statistical Techniques and Interpretation

Keeping in view the nature of problem and the variables under study on one hand and the various statistical tools or techniques that help on establishing relationships or differences between and among variables on the other hand, the investigator employed certain established tools which were considered to be feasible like mean, SD, t-test, correlation and multiple regression. The data was fed into the computer and run on SPSS package.

Analysis of Comparisons

In the first phase of analysis, private and public schools were broadly compared on four major variables, namely, quality achievement, funding, SES, per capita expenditure and teacher-pupil ratio:

(i) The private and public school students were compared on academic achievement in many respects taking into consideration the class level and sex of student. As a result of such analysis, it was found that private school students performed better than their counterparts in public schools both in the class V and VIII. In the gender-based comparison, the boys and girls of private schools outscored boys and girls of public school in the academic achievements. The difference between private and public school students was found statically significant.

(ii) On the comparison of school quality, it was found that the two types of schools differ significantly with each other and that private schools' superiority was established over public schools in all the individual components of school quality as well as in the overall quality as per the figures shown in the Table 5.11.

(iii) The private and public schools were compared on the institutional expenditure and per capita expenditure and it was found that the difference in these variables between these two types of schools was significant and in favour of public schools. The private schools were found operating at a low cost in comparison to public schools.

(iv) The students from private and public schools were compared on socio-economic status. It was found that private school clientele come from high socio-economic status sects of society than public school students. The difference in the socio-economic status between the students of these two types of schools was found significant.

(v) The private and public schools were compared on teacher-pupil ratio. It was found that the two types of schools differ significantly with each other in teacher-pupil ratio. In private schools, the teacher-pupil ratio on an average was calculated as 1:24, while in public schools this ratio was 1:28.

Analysis of Relationships

The coefficients of correlation between academic achievement and other independent variables were computed. The results so obtained from these coefficients revealed that socio-economic status, school quality, school expenditure, per capita expenditure, teacher-pupil ratio and the class level are significantly correlated with academic achievement when the composite sample of private and public schools was taken. However, the school expenditure and per capita expenditure were found significantly negatively correlated with academic achievement.

In a separate analysis, in public schools alone, the class level, socio-economic status, sex, and school expenditure were found significantly correlated with academic achievement. In this analysis, school expenditure was found negatively correlated with academic achievement.

In private schools, the coefficient of correlation between academic achievement and other seven independent variables were computed. Out of seven independent variables only three variables, namely, socio-economic status, school expenditure and per capita expenditure were found significantly correlated with academic achievement.

Determinants of Academic Achievements

For a more detailed analysis, a regression analysis technique was used to determine the extent to which the dependent variable should be predicted on a set of variables like school type, class, SES, school quality and per capita expenditure on a composite sample (including both private and public school sample), private schools and public schools separately.

In first such analysis the composite sample was taken into consideration and it was found that school type, class level, socio-economic status, school quality and per capita expenditure emerged as significant regressors positively contributing towards the determination of regressond as per their Beta value.

A separate regression analysis was carried out on the sample belonging to public schools and the results of such analysis show that class level, socio-economics status, school quality (academic and non-academic manpower facilities and co-curricular facilities), per capita expenditure and teacher-pupil ratio significantly contributed towards the academic achievement. However, the per capita expenditure showed inverse predictability.

In another regression analysis, the sample from private schools was taken into account the result of such analysis show that socio-economic status, school quality (academic and non-academic manpower facilities and co-curricular facilities), per capita expenditure and sex have proved significant determinators of academic achievements as per their Beta value. However, the quality components like infrastructure and curricular facility and per capita expenditure showed an inverse predictability.

Findings of the Study

As a result of analysis and interpretation of data, the investigator was able to obtain some findings which are presented below:

1. The achievement level of students was found very low in both private and public schools and in both the classes that is, V and VIII. The private school students on an average obtained 39.57 per cent marks in class V and 40.70 per cent in class VIII. The mean achievement score of public school students was estimated as 23.29 per cent in class V and 29.44 per cent in class VIII. Thus, in both the types of schools and in both classes the obtained mean score of students had remained very low.

2. The private school boys of class V and VIII performed significantly well in the academic achievement of all subjects than their counterparts in public schools. Similarly, the private school girls outscored the girls of public schools in English, Science, Social Science and Maths. However, the boys and girls did not differ with each other in academic achievement within the private schools or within the public schools.
3. The quality of schooling in private sector schools was found comparatively better than public schools in all the areas or components of school quality.
4. The average public school expenditure per annum was found to be huge (Rs 7.58 lacs) in comparison to private school expenditure where it was estimated as Rs 3.11 lacs.
5. The expenditure on academic and non-academic manpower facilities (salaries) constituted 97.71 per cent in case of public schools and 77.67 per cent in case of private schools.
6. The private school spending per annum on other areas of school activities like provision of infrastructural facilities, curricular and co-curricular facilities constituted 22.31 per cent of total expenditure while in public sector schools amount on these facilities constituted only 2.29 per cent of their total annual expenditure.
7. The per capita expenditure in private school on an average was found to be Rs 1,123 and in public school, it amounted to Rs 2,384.
8. The teacher-pupil ratio in public schools was very high (1:28) in comparison with private schools where it was 1:24.
9. The private school clientele did come from comparatively high SES (middle class) groups of society while the students reading in public schools belonged to lower socio-economic sects (lower-middle class) of society.
10. In private schools, the difference in socio-economic status of students on gender basis was not found. But in public

sector schools girls were found to belong to comparatively higher socio-economic status sects of society than boys.

11. The relation between the type of school and academic achievement of students was found positive. Private school students performed significantly better than public school students in academic achievement both in class V and VIII and in all subjects like English, Science, Social Science and Maths. In the overall achievement too, private school students had scored higher than the public school students.
12. The school quality and academic achievement was positively correlated with each other. The better school quality lead towards higher scores in academic achievement. In other words, the level of academic achievement was very high where school quality was superior.
13. The huge institutional expenditure and the academic achievements were found inversely correlated with each other. The achievement level of students in public sector was compatibly very low but the expenditures in such schools was significantly more. However, a positive correlation between school expenditure and academic achievement was noticed within private sector schools only.
14. Socio-economic status was positively related with academic achievement. The students belonging to high SES had performed well in academic achievement than the students whose SES was found low.
15. The low teacher-pupil ratio was positively correlated with academic achievement. The private schools operated with comparatively low teacher-pupil ratio than public schools.
16. The school type had emerged as a significant contributor in the determination of academic achievement. Accordingly, private schools students performed better in academic achievement as per their Beta value and coefficient of correlation.

17. Except in private schools, class level had contributed in the determination of academic achievement levels of students in public schools as well in the composite sample of students. Class VIII students had performed better than class V in the their respective achievement tests.
18. The socio-economic status had emerged as a single regressor in the determination of regression that is academic achievement in private and public schools as well as in the composite of both private and public schools.
19. The quality components namely academic and non-academic manpower facilities and cocurricular facilities emerged as significant regressors in the determination of academic achievement. However, the other two components of school quality, namely, curricular facilities and infrastructure were not found as significant determinants of academic achievement in both private and public schools.

Conclusions

The collected data and its statistical analysis brought out certain conclusions which are mentioned below:

1. Private management schools were more effective and efficient than public management schools in producing the comparatively better academic achievement levels of students in English, Science, Social Science and Maths.
2. Private schools behaved differently than public schools and succeeded to maintain better school quality despite low institutional expenditures. The operational ability of private schools was better than public school in terms of school quality and achievement levels of students.
3. The rather huge institutional expenditure (particularly on salaries) and the per capita expenditure were found inversely associated with academic achievement.
4. The school quality was positively associated with academic achievements of students.

5. Private schools were biased towards high socio-economic status parents in the society and the public schools were destined to serve the lower socio-economic sects of society.
6. The socio-economic status emerged as an important correlate and determinant of academic achievement in both private and public schools. This means that socio-economic status is positively and significantly contributing in the determination of academic achievement level of students.
7. The low teacher-pupil ratio was positively associated with academic achievement.
8. Parents from relatively high socio-economic status preferred to send their male children to private schools and female children to public schools.

Implications

This study and its findings highlighted some significant concerns in education. Several studies on comparative achievement between private and public schools came with the conclusion that more finance, high SES and quality schooling are determinants of high achievement. There are other studies also that give contrary results. But this study as many other studies gave mixed type of results. For example, on the whole it was found that expenditure in education at the elementary stage was negatively correlated with achievement. There are several major implications of this study. The implications can be classified in two broad categories. These are:

Research Implications

On the serious considerations of the findings of this study and its implications, it logically generates certain hypotheses and research questions. It would be important and necessary to conduct a number of studies in order to come to a conclusive decision about whether or not private/public schooling has

impact on learning. Some of the major issues and research questions are recommended for further research.

First, this study was conducted in selected few schools of district Anantnag of Jammu and Kashmir state. Sample was necessarily purposive. This was warranted because of the nature of this study. Although one can be confident that findings would be generalisable to the all rural districts of the J&K state and to the other rural districts of the country, it would be necessary to carry out more studies in this format in several other districts in the state or other parts of the country. Such lateral replications would provide a stronger base for generalisation.

Second, it is also necessary to conduct studies at other class levels particularly at X and XII classes where pressure for performance is significantly high. Together with the lateral replications this vertical replication would provide a far larger base for testing the hypothesis on private and public school choice.

Third, in this study the expenditure was centred around only on institutional expenditures. It has not taken into consideration the household expenditure on the education. So, there is need to conduct a study that will extend the dimension of expenditure to include the household expenditures too.

Fourth, in this study though major portion of the syllabus was made the base for the construction of achievement tests but a limited portion was dropped on the grounds, peculiar to turbulent situations in Kashmir. There is a scope for further studies taking the whole course content into consideration.

Fifth, research is needed to examine the dimensions of school quality too. School quality as operationally defined is that this study can be limited or expanded to new dimensions in the ever changing social set-up, taking into consideration the latest technologies and the use of electronic media in education. Everybody is concerned about the quality in education, so there is ample scope in this area of research.

Management Implications

The actual observations and responses of teachers, headmasters and students and the responses to the questionnaires indicated that in both the sectors of education there is need of up-gradation and minimum management inputs into the system are imperative, like:

First, the manpower facilities are inadequate in terms of requirement, though the number may be more or sufficient but the dearth of Maths and Science teachers is a common phenomenon in public schools which needs a special intervention. There is no permanent teaching staff available in private schools and teachers in this sector are comparatively less qualified and less paid. The credit of comparatively better achievement levels of students in private sector goes to parents who take the education of their children very seriously.

Second, the menial and ministerial staff in elementary schools is not available as per the requirement of the system in the public schools.

Third, the lack of infrastructural facilities are a great hurdle in running the schools smoothly. This largely effects the capacity of schools to retain a child for fairly a good period of time in public schools. The lack of furniture and furnishings was a common problem in public schools.

Fourth, the lack of teacher-training at elementary stage of education seemed to be a serious concern both in private and public schools.

Fifth, the monitoring on the services a school offers to children is negligible at elementary stage of education. The classroom activities are not monitored by those who are responsible for this job especially in public sector schools. The lack of accountability on part of teachers was also noticed by the investigator. All these shortcomings need to be taken seriously.

Finally, the lack of parental seriousness and support for the education of their children was observed by the investigator especially in case of public school students.

Concluding Remarks

On the basis of statistical analysis of data, its interpretation and the personal observations during the collection of data, the investigator was able to present certain concluding remarks such as:

1. The present study supports the latest trend of privatisation of education. The scope of privatisation of education seems very bright because private schools had succeeded in maintaining a good school quality and higher achievement levels of students with their limited institutional expenditures.
2. Since private schools operate at comparably lower costs, which may be due to low teacher salaries, the responsibility of universalisation of elementary education can be shared with private sector on a broad basis. This may necessitate the relaxation of rules and regulations for the establishment of private schools especially in rural areas.
3. In order to make public education system more effective and efficient for improving achievement standards and providing education of a satisfactory quality, public schools need additional financial support in the areas of infrastructure, curricular and co-curricular programmes of schools.
4. Public schools which largely cater to the educational needs of socially and educationally lower sects of society, special assistance is needed in shape of scholarships, free text books and uniforms upto class VIII.
5. The monitoring services at elementary stage of education need to be activated in such a way that all partners in the delivery of learning including teachers are held

accountable. Besides, teacher-parent associations need to be formulated and strengthened in order to achieve the set objectives.

6. The teachers in the private sector schools need to be supplied by the state recruiting agency, so that qualified and trained teachers get selected and that their services are protected from any kind of discrimination.

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